695

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696

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697

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698

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699

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701

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702

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CCAATTCCAT ACCGATTTCA ACGTGGCTAC CTTCAACCTC ATGGTCAATG GCTTTCCCGA    16320

TATCGTGAAG GAATCCAGCA CGACGGGCAA GAGCCGCATT TTCACCAAGT TCGCTCGCCA    16380
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703

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TGATACCAGC CAACTTAGCA ACCTCAATCG AATGGCGCAA AACATTTTGT CCATATGAAG    16440

TACGGAACTG CAAACGTCCC ATAATCTTCA TCAAGTCTGG ATGAAGGTTT GGCGCACCAA    16500

TTTCATAGGC AGCAGCCTCA CCGTATTCAC GAATCTTATT GTCAATCTCT TGACGGTTTT    16560

TCTCAACCAA CTCTTCGATA CGAGCTGGAT GTATACGACC ATCTTTGAGC AACATTTCCA    16620

TAGTCATACG GGCAATCTCA CGACGAATCG GATCAAATCC TGACAAGGTC ACCACTTCTG    16680

GTGTATCGTC GATAATCACA TCGACCCCTG TCAAACTTTC AAAGGTACGA ATGTTACGAC    16740

CTTCACGACC AATAATGCGT CCCTTCATAG TATCGTCTGG CAGATGAACT GTTGAGTTTG    16800

TTGACTCCGC TACATATTCA CCAGCGATAC GTTGCATAGC TTGAACCAAG ATGTCCTTGG    16860

CCATTTTGTC AGAACGTTCC TTGACCTCTT GCTCAGCTTC GCGAATGCGA CTGGCAATCT    16920

CCCTGGTCAA GTTTTCCTCT GTCTGAGCCA AGATAATATC TCGTGCTTCT GCCTGAGACA    16980

GCGCACCAAT ACGCTCTAGT TCTGCTTCTT TTTGTCTTTC GACTTCCTCT AATTGCTCTT    17040

CACGCGCATC AAGGTTTTTC GCTCTATCAG AAATACTTTG TTCTTTTTGT TCAAGTGTTT    17100

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CACGTTTGGC TTCATTAACA AGTAAATCCG CTTCACGCTC AGCTTGTCCA CGTAAATTAG    17340

TTGCTTCTTG TTCAGCATTT AAAAGCATCA ACTCTGCAGC TTCCTGAGAT GATTTCATCT    17400

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CAAGCGACAT GATTTCCATG TTTTTACCTC ATTTTATTGT TATTCCGAAT GACATACATT    17520

CTTTTACATT CTACCATAAA AAAGTGATTT TCACAAACCT AAAATAGAAT ATGTTTTGAG    17580

GAATTTGGAA CACATTTACC AAAATAAACT TGTTGTTTAG AAATAGTAGT TTAGTAGAGA    17640

CTTGAGAAAA AGCCTACCTT TCAATAGACT TAGTAATGAT CTTTAAAGGA CAAGAAAGCC    17700

ACGCTATCTC CATCCATCAT ATAAATCAAG CGATTTTCTG CATCAATACG CCGTGACCAG    17760

GCTCCTTGGT AATCATATTT GAGTGGTTCT GGTTTACCTA TTCCTGTAAA GGGATCACGT    17820

TGAATATCCT TGATTAGTTT ATTGATTCTT TTTAACGTTT TCTTATCCTG ATTTTGCCAG    17880

TAGCAATAAT CTGCCCAGGC ATCTTCTGTA AACTTGAGCA GCATTTCTTA CTCCTCAATA    17940

ACATGGACCT GAGTACTTCC AGCACGAACT TGAGCCATTC CTCGCAAAAC CTTATCAGAA    18000

AGTTCCTTAT TTTGAGCAAT CTCAGGGTT TCTTGGATAC TATCCCACTC ACTCTTTGAA     18060

AGGACTACAA TGTCCTCATC TGGATTTTTA TTGACCACCG TCAAAGGCTC AAATTCATCA    18120
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704

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TTTACCTTCT TCATGTAGTC CTTTAAATGA TTTCGGAATG TTGAGTAAAG GACTGCTTCC      18180

ATAACCATAC CTCGTTTTAG CTCTTTTCCA CTATTATACA CGAAAAGAAA GAAATTGTCA      18240

GGAACTTGTA CAAGATTTTC TTTTCTATCT ATTTATACTC AATGAAAATC AAAGAGCAAA      18300

CTAGGAAACT AGCCGCAGGC TGTACTTGAG TACGGCAAGG CGACGTTGAC GCGATTTGAA      18360

TTTGATTTTC GAAGAGTATT ATTCGTAAAA AATCTCAAAA AGCCTACCTT TCGGTAGACT      18420

TAGTTTGTTT CTATTC                                                     18436
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(2) INFORMATION FOR SEQ ID NO: 88:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 7001 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

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ACGTAGAAAA ACTATTTCTA TCACAGATAA TATTCCGTAT GTTGTTGGAG GTATTGAAAT        60

AAACGTCCTA GGTATCTTTC TCAGTCTATG TGACTTACAA GGGAAAACTC TTTTCGAGAC       120

AGAAATTTTG AATGAAGATT ATCCTATTTC AGAAATCAAT TCCACCATTA CCAATATGAT       180

AAAAACAGCT ATAGAGTACG TCCCTTTGGA AACAAAATTA CTTGGATTTG GCTTATCAAT       240

ACCTGGACAT TATAACAAAG ACTCCGGAAG TATCATTACA AACAACCCCA TATGGGAATC       300

TTTTAATTTA TTAAATGTAA TTAAAAGATT CAATTTTCCT TTTATTGTAA AAAATAATAT       360

CGATTGTATG GCTATAGGAC AATACCTTTT TAATCCACAC AATACCCCCG ATAACTTTAT       420

TTTCCTACAC GCTGGATTAG GTATTTACAC TTCCTTTTTC ACAAAAGAAA AAATAGGAGC       480

CTCTAAAAAT CCTTATATCG GAGAAATTGG ACACACCATT GTCGAATTGA ATGGGCAATA       540

TTGTGAATGC GGAAAAAAAG GTTGTTTACA AACATATATT TCGGATGCTT GGTTAATCAA       600

ACACGCCCAA TTATTATTTA AAAATTCCCA ACTAACTGTA CTAAAAAGCC TTGTAAAGAC       660

TGAAAAAGAC ATTCATTTAG ACACCCTTTT AACGGCTTAT AATTTAGGCG ACTCCGCTTT       720

ACGTCAACAA ATTGATAAAG GAGTCAATTT ATTAGCCACT TCTATTGCAA ATCTCCTCCT       780

CATCAATCCT GCTGATAAAA TCTATATCAA CAGTCAATTG CTTAATTATC AACCTTTCAC       840

TCATGAAGTC AGGGATAAAA TCCAAGACCA GCTCCACTTC GTTCCCTTTA CTCGTAATAT       900

AGAAATTGAA ATTTTACCTT ACAACAAACA TCGTGGAAGT ATAGGAGCTT GTGCATTAGC       960

TATCGTCGCT TTTTTCATAG AACATAGCAA TGTATTACAA GATATTATTT CACCTTAATA      1020

TATTAGAAAT CTATAGACCT GTTTAAATCA ACTATAACCT GTAGTAGATA TCTCGTATTT      1080
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705

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AGACAATATG AAAACAAGAC GACTTCCATA TAGGAAACCG CCTTCTCGCT ATGTTGAGTG    1140

ATTTATATTA AAATAACTTT TCTTCTAGCT GCATTTTATT ATTATAAAAA CATTCATCAT    1200

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TATGAAATTC TCATTTTTGT TTTTACAATT CTCCTTAGTT AAATCTTGTT TAATATATGT    1320

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AATACAGACA CTCGTAACAA CTGCTTCATT TTTCTACCAA CATATTTAGG AACAGGATAA    1980

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AAATAAGGAA TTAATTCAGG AAAATCTGAC TTTAACAATT ATCTGTGTCG GTGGTTATGT    2820
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706

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ATTACATTTT ATCACAAAAT TACTAGACAT TAAAGACCCT AATATCCAGA TTTTAGACAT    3060

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AATAATCTCA TCAAACTTAT CAAGCGCAAT GCCTTTGGTT TTCGAAACTT TGAAAACTTC    4200

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CGAGCTTAGC TTTTTTTCAA CCCACTACAG TTGACAAAGA GCCGGAAAAA GGAACAGCCT    4320

TAGCTTTCCT TTCATTTCTT TTTATTTCCC TCGTAGTAAA CGTGCTAGCT TCCACAAAAC    4380

AAACAGGATT CCCAGAAATG CCAGTACCAC TAGCCCACGG TACAACCATT GAGAGGTTGC    4440

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TGGATCTGAT TTTTGATAAA CAGCGACTCG TTCAAAATTC ACTAATAAGC GTTTATTAAA    4560

GGTAGGAATC GGATCGCAGG TTATCAAGGT CATGATATTT TTAGAGCTAA CCGATTCTAA    4620
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707

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TTTTTCCCAT TCCGACGGTA AAATAATCTC TGTGTCCATC ATCTGATATT CTACAATTTC        4680

CTGGCCATTA TCATAATAAA GAGCATCTCC AACTTTTAGC TGATCCAAAT GGCGGAAAAA        4740

GACATGGCTT GGCTCTGCAC GGTGCCCAGC AATCACTGAG CGAATCCCTG TACCATCCAG        4800

AGGCAGCGGT GTACCATCCA CATGAGCCAA GCCCATCCCT AAATGATGAT AATCTGCTCC        4860

CAAATAAACC GGCTCCATGA TTTCCAAACT TGGAATAGAC AAGTAACCAT AGACTGCATC        4920

AGGGTCGTCA GACACTTGGT AATTGACCTC ATATCCCTCC GCCAAAAAAG GATCTACAAT        4980

GCGATTTTGC GAAGCCAAGC GTTGATTGTA GGCGAGAGAA TGGTTCTGTT GTTCTTGGTA        5040

CATTTCAGTT GTCATGGATT TCACAAATGT AGCATGACCT TTCACCTGTC CAAGAGACTG        5100

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CAATTGGTGC CGTATACGGA ATCCGCTTCC CACGTACCAA CAGACGATGA CTGTTAATCA        5400

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CAAAGTCATT CGGCTCCACC GTCACTATCT GATCCACTTG GTAGGCCAAC ACCTGATCTA        5520

AAACGTGAAG ATAAAAGATA TCCCCTTTTT TCATCTTATC CAATTGACTG AACAATTCTG        5580

CCGTTGGCAA TCCTCTGTGA GCAGTGATCA CTGTATGGGT ATTTTCACCT CCAACAGGCA        5640

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AAACCAACTG CCACATAAAA CAGGTAGCGA TAGAGATGAC TGAGTTTGTT TGCTGCAATA        6240

AATTCTTCCT CAACCTCTGC TACGTACGGT ATCCGATGCC CCCGAACCAA TAGACGATGG        6300

GTATTGATCA TGTATGGCGT ACAAGTCAGC AAGGTCACAT AATCATGACC TGGTACAATC        6360
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708

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AATAAATCAT CAAAGTTCGT CGGCTCAATC ACCTTTACTT GATCCACTTG ATAGGCCATC     6420

ACTTCCTTGA TATTGTGCAC ATAAAACTTA TCCCCAACTT TAAGTTTGGT CAAATCCGTA     6480

AACATCTTAG CTGTTGGCAA ACCTGTATGT GCCGTAATCA CCGCATGGGT CGAATTGCCT     6540

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GTACCAGCAT AAACCGGCAA ATCCACGTCA ATAACGGGGA TTTCCACATG CCCCATCCGC     6660

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CAAGGATCGC CACTCACTAC ATTATTCAAA GAGTCATTGA AGGCTTGTGC CAATTTCATT     6780

CGTTCATCAA TGTCAGCCTC ATCCAACGTT GCTTTTTCCT TATCAAAGTC AGCAATTTGT     6840

TGATTTGATT CCACTCGATA ATACAAGCGA GACACCAGCG GATACGCCAT TACCGCCATT     6900

CCAATGAAAA ATACCACTCC TAATAGGAGA TTATTTCGTT TTTGCTTTTT TGTTTTTACC     6960

ATTTTTATCA GCATCCCTTT ATCTTCAAAC TTCAGGGTAT C                         7001
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(2) INFORMATION FOR SEQ ID NO: 89:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10411 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 89:

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GAGGGAGCTT AAGAAGTTAC CACCGTCCTC TAGCGCCTTA TCCGCATCAA AGTTAAGGTT      60

GATATTTTTA AAACTGTCGC CAGCTTGTGA TACGATGCTT TGTTTAAGGT CATTTAGGGT     120

TTTAGTGAAA TCTGCATTGC TGAGGATATC ACTCTTTGAG AGATTCAAGG CAAAATTGAT     180

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GAGTCCTGAC TTGATATCAG CTAGGGCAAC GTTTAATTTA TTAGCATCAT AGCCTGATTT     360

GTCCTTGTTT TCAGCATTGA TATCTGACAA AGCTTTTAGC TCTTCTTGAG CCAAATCTTT     420

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CGTTACTGCT GCGTTTCGGT ACATATCCTG AGTCACCTTA GTGATATTTT CTGGTGTTTC     600

AATCTTGACC TCAAGTGGCG ATTTGTCACC TAGCTTTTGA ATCTTGGCTG ATGAATACAA     660

CTGTAAGCTA GAGTCATTGG CCACATTCAT GATTTTAGAA TAAACATCAG GTGTCATGGT     720

CTTGAGTTCT TTGGTATCTG TTGAGGCATT GTAGCCCAGT TTTTTAAGAG TTTGATTTTT     780
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709

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TTGGTCTTCA GATAGGGAGG AACCTAGGAC ATATTCAGGT TGGACATAGG TTTCATCGAT      840

AACTTTTTGA ACATCTGTTG CTGCATGGAC GCTATTCATA GCTGTTACTG CCCACAAGAT      900

CGCAGCGCTA GTCAGAAAGA GTTTCTTTCT CATAGGGAAT TTCCTCCTTT ACTTCTTTAG      960

AGTAATATAT CTATCTTAAA GAAAACTTAT AACAAAAACA CCTGGTCTAG CCAGATGTTG     1020

AAAAGAGAGT GAAACATTTG ATGATGTAAA GGTTAAGTCG TACCTGTCTA GAATAATAAT     1080

AGTTTCCTCC ATTTACATAG AGTTCAGCAC CGTGAAAAAT GGAAATGGGG TGAATATAAC     1140

TATAAGTCTT TCCAGTCCTA TTACCAAGCA AGGGGGCAAC AGTCTCACGA GAGTACTGTT     1200

TGGCTAGAGC CAGGGTATTT TCCTTGCCAT TTTGGGCGAT AAAATCGATA TAGGCAGGTC     1260

CAAAATTATA GGCTTGAACA GCTGTCCAGA TATCTACCCC CTTCTTCTGC GCCAGATAGA     1320

GATTGCCTGT CAGAGTTTGA ATGCCTTGCC GAATGCTAGA GGCATTATCA TTGATGGTGT     1380

TGGTGGAACC ACTTGCAGAC TCACTAGACT GCATAACATC GCCTTCTTTT CCTTTTGTTT     1440

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ATACACATGT TCAATTTTTT TACGCAGGTA TTCTTCGATT TTTGGAGTAA TATTGAGAAA     2520
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710

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CTTATCTGCT AAGAACAGTT CGGTATCATC CGGACTGAAC TGGTGAATAA TGGCTTTCTT      2580

AATATAAATG TCCATAAAAG TTTTAGTCCT CGTATAATGG GAAGGCATCT GTCAATTCTT      2640

TGACTGCACT TCTCACTTCT TCTAATACAG CCTCATTTTC TGAATTCTTA AGGGTTTTAA      2700

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CACTATAAGA AACAAAGTTG TAGGTTTGAC CAGAGAAGCT AACAGGAGCC CCATGAGTCA      3480

AATGACCACC TGATGCCAAA TCCATTCCCA TAACCGTATC ACCTGGCTCA ATCAAGGACA      3540

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CACCATAATA ACGGCGTCCT GGGTAACCCT CGGCATATTT ATTTGTCAAG ATAGACCCTT      3720

GAGCTGCCAT AACAGCCTTG GAAACTACGT TTTCCGAAGC AATTAACTCG ATATTATTTT      3780

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TTTACAATAA GAAAATCAAA CTAACAGATG CGAATAAACC GTTTCTGCAT TTTATCACAA      3960

GTATAGCCAA CTTTTTCATA AAATGCATGA GCACCCGACG ATGGATTGGC AGAATTTAAG      4020

CGGATAAACC CATAACCACA TCTTTTTGCT TCTTCTTCCA ACCCTTGTAG TAAACTTTTA      4080

CCAATACCTT GACCTTGCGC TTGAGGTGAA ACTGCTAAAG CTAAGATATT AAATCCTGCT      4140

TTGGAATAGA GTGATTCGTA AACTTCAGCG TGGACATATC CAAGTAAGAC ATGATTAGCT      4200

GCATCCTCAT AGCCAAGTAG GAAATGATGG GAATCCTGAG ACAGTCTAGC TAGTTGGCTA      4260

GCCGTTTCCT CTGGACTAAA AGTATAACCC AAAGCCTCTT GGTTGATGTC ACATATAGCT      4320
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711

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CAACCGAGCA AGAATATCTT CTCGCTTAAT GGCCCCTTGA CGTAAGATTT TCACCTTGTC    4440

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CAGAACCTCT TGGTCAAAAT CCTCTAGAAT TTGATTAAAG GTCACTCCAC TCGCCTGACC    4560

TGAGATATTG GCAGACGGCC CAATCAAGGG ACCTGTCTCT CGAATCAAAT CAAGGGTAAT    4620

GGGATGACTA GGCATCCGAA ATCCAACAGT TGCAAGGCCA GAATTGACCC AATAGGGAAC    4680

TCGGTCATTA GCTTCGAGAA TAATGGTCAA GGGACCTGGT AAAAAGATCT CTACAAGTTT    4740

TTGAAGATAA GTTGGCTGAT TCTTTGAAAA GTACAAGATG TCCTCTAAAG AGGCAACATT    4800

GAGATTGAGC GCCTTGTCTC TACGTCGACG TTTAAGCTGG TAAACATGGT CAACTGCTTT    4860

TTCGTCTAGC GCCTTAGCAA AGAGACCGTA AACTGTCTCT GTAGGCAAAA CGACAGCTCC    4920

ACCATTTTCC AACTCTTGTC TAATCCTGTC CATCATCAAC GACAACCATC CTATCTTGAC    4980

CAAATTGGTC CTTGAGTGTT CGTACTCGCT TTTCAGGAAG ATGTTTCCTA AAAAGTTCAG    5040

GAACACTTTG ACCTTGCTTG TATCCAATTT CAAGGTAAAT CTTACCACCA TCTTTGAGAT    5100

AGTCTTTTGC ATCTTCCGCA ATTCTACGGT AAATAGCTAG GCCATCCTCA TCTGCAAAGA    5160

GAGCTAGATG AGGCTCCGAA TACAAGACAT TCAAGCCTAC CTCTGACTCA TCTTCACGAG    5220

AGATATAGGG TGGATTGGAA ACAATTATAT CATATTTTTC AGAAATTTCT GTAAAACAGT    5280

CAGATTTTTT TAAAAATATT TGAAGATTTT GATTTTTAGC ATTTTCGCTA GCTACATCTA    5340

AAGCATCTTG GGAAATATCT GCTGCCGTCA CTGACCAATC TGGTCTGTTT TTTGCTAGAG    5400

CGAGAGCAAT AGCTCCACTA CCTGTTCCGA TATCTAGGAC CATAAGATTT TTCACAGGAT    5460

TTTCAGCCAG GATAAGCTCC ACCAACTCCT CTGTTTCTGG ACGAGGAATC AAAACCCGTT    5520

CATCCACCTT TAAATGCATT CCATAAAAAT CTGCCTGTCC AATGATGTAC TGAGCTGGCT    5580

TGTGAGCTGC TAGTTGCTGG TAAATATCTT CTACAAATTG TTTTTCTTCC TCTGTTGTCA    5640

CCTCCTGCTG GAGGGCAAAA ATAAAGTCTG TAAAAGATAG ATTTTTCAGA CTACGATAGA    5700

CAAAAGAGAG GCTTTCCGCT TCCTCTCCTT GTCTTATCAA CTCTTCTTCA AAATTTGAAA    5760

ATAATTGAGC TAATTTCATT ATTTGTTTAA TTCTTCTAGT TTTTGTGTTT GGTCATAAAG    5820

CACCAAGGCA TCCACAACTT CGTCCAATTT ACCAGACAAA ATCGTATCTA GTTTTTGGAG    5880

GGTCAAGCCG ATACGGTGGT CTGTGACACG GTTTTGTGGG AAGTTATAAG TTCGGATCCG    5940

TTCTGAACGG TCACCAGTAC CGATTGTCGA CTTACGCTCA GCGTCCTGCT CATCTTGAGC    6000

AATCTGAGCA AAGTGGTCAG CAACACGGGC ACGGATGATT TTCATGGCCT TCTCACGGTT    6060
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CTTCTGCTGG GTACGTTCTT CCTGCATCTC AACCTTGATA TTGGTTGGCA AGTGAACGAT      6120

ACGAACGGCA GTCGCAACCT TATTGACGTT CTGTCCACCA GCACCAGAGG CGTGATAGAT      6180

GTCGACACGA AGGTCTTTTG GATCAATGTC GTATTCAACC TCTTCAACTT CTGGCATAAC      6240

AAGAACTGTC GCTGTCGAAG TATGAACACG GCCTTGGCTT TCTGTCACAG GAACACGTTG      6300

CACACGGTGG GCACCTGATT CATACTTAAG CTTAGAGTAT ACAGACTGAC CTGAAACCAT      6360

AGCAACCACT TCTTTAAAAC CACCGACACC ATTCATAGAG GCTTCCATGA CTTCAAAGCG      6420

CCAACCTTGG GCTTCCGCAT ACTTTTGGTA CATAGTTAGC AAATCTCCAG CGAAAAGTGC      6480

CGCTTCGTCT CCACCAGCTG CTCCACGGAT TTCAAGGATG ATATTCTTGT CATCGTTTGG      6540

ATCCTTTGGA AGGAGCAAAA TTTTCAGTTT TTCTTCATAT TCTTCTTTTT CAGCCTTGGC      6600

ATCTTTGAGT TCTTGCTTGG CCAATTCTTC CAAGTCCGCA TCTCCGCCTG ATTCCTTAAT      6660

CATCTCTTCG GCATCGACGA TATTTTGAAG GACTTGTTTA TACTCACGGT AGGCTATTAC      6720

GGTGTCACGA TTGGAAGCTT CTTCTTTTGA AAGCTCCATA AAACGCTTGG TGTCTGAAAC      6780

GACATCAGGG TCACTCAGCA ATTCTCCTAA TTCTTCATAA CGGTCTTCTA CAACTTGTAG      6840

TTGATCATAG ATGTTCATTT TTTCTCCTTA TTTCTCAATT GTTAAATCAT AGATTGCTAC      6900

TACTTCATTC TCGGATATTT CCCCAGTTTC TTTAAATCCA TAACTGAGGT AACAAAATCT      6960

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TGTTCGAACA TAGTCTAGTA CTTTATCCAT AATTGGTTTA AAATATCCTT GATTTTGAAA      7080

ATTCTTATCA ATCATAAAAC GAAATAGTAA ATAATTTCCA CTACTAATTC CGATCTTTTT      7140

ATCATAAGCT ATCATCACAA AACCTATAAT TGCATCATTA TCATAAACTG CCAATGGAGC      7200

TACAAAATCT CCATTTTTAG TGTAGACGTA TGCTTCAGCT AAACTAATTG CGTTGGTTGC      7260

AATGAATTGT TTTTGATATT CCTTGACATC CAAATTTAAA ACATCAAAAT AATTTTCCAT      7320

TGTAACATCT CTTAGTTCAA TTGTCATAGT TTTGCTCCTT GTTAGAGGTT ATCATTGGCG      7380

CAAAATAATG TTTACGGCAA ACTGAGATAT AGGTTTCGTT ACCACCAATC TGGATCTGTT      7440

CTCCATCGTA AACGGGCAGT CCATCCTGTG TTCGCAACAC CATGGTCGCC TTTTTCTTGC      7500

AATACTGACA GATGGTCTTG ATTTCGTCAA TCTTGTCTGC TAAAAGCAAG AGATATTTGG      7560

AACCTTCGAA CAATTCATTG CGAAAGTCAT TTTTCAAGCC AAAAGCCATG ACGGGTATGT      7620

CTAACTCGTC CACAACACGA GCTAGGTCGT AAACATGGTG GCGTTTGAGA AACTGGGCTT      7680

CATCGACCAA AACACAGTAA GGTTTTTCTG GTAGGTCTCG GATATAGCCA AAGATATCCG      7740

TTGTTTCCTC AATCGCAAgG GCAGGGCGTT TCATGCCAAT TCGACTCGAC ACATAGCCAA      7800

CGCCGTCACG CGTATCCAGA GCCGAGGTCA TAATCACAAC ACCTTTTCCT TGCTCCTCGT      7860
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713

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AGTTATAGGC CACTTTGAGA ATCTCAATCG TTTTACCAGA GTTCATGGTC CCATAACGAT    7920

AGTACAACTG TGCCATGTTT CTTGCTTCAC GTCCATTTCT AAATTTTTGC TACATTCTAG    7980

TATATCATAA TTTTCTTAAG CTTTAAACGG CAAAATGTGG TAAAATAGAA GAAATCAAAA    8040

ACTAGTGGAG GAAGCTATTA TGCCATTTGT ACGCATCGAT TTATTTGAAG GACGCACGCT    8100

CGAGCAAAAG AAAGCTCTTG CTAAGGAAGT AACGGAAGCA GTTGTCCGCA ACACTGGAGC    8160

CCCTCAATCT GCTGTCCATG TCATCATCAA CGACATGCCA GAAGGAACTT ACTTCCCACA    8220

AGGGGAAATG CGTACTAAAT AAGCTAGCTT AAGCAGAATT GCTTAGGCTT TTTCAATCTC    8280

CAAGTAGCAT TCATTGAAGA AATATCCTAA ATTTGTTACA ATTTGAAAAG AAACTTGGAG    8340

AATTTCCAAG AAAAGAGCTA TTAATTAAAG GAAACATTAT GATTACACGT GAATTTGATA    8400

CCATCGCTGC TATCTCTACT CCACTAGGTG AAGGGGCTAT TGGTATTGTC CGCCTGAGCG    8460

gAACAGACAG TTTTGCTATT GCGCAAAAGA TTTTTAAAGG AAAAGACTTG AACAAGGTTG    8520

CCAGCCACAC TCTCAACTAC GGTCACATTA TTGATCCTCT GACTGGTAAA GTCATGGACG    8580

AGGTTATGGT TGGGGCTATG AAGTCTCCAA AGACCTTCAC TCGTGAGGAT ATTATCGAGA    8640

TTAACACCCA CGGTGGGATT GCGGTGACCA ATGAAATTCT CCAGCTAGCT ATTCGTGAAG    8700

GGGCTCGGTT GGCAGAACCT GGTGAATTTA CCAAACGTGC TTTTTTAAAC GGTCGCGTAG    8760

ACTTGACACA GGCAGAGGCT GTGATGGATA TCATCCGTGC CAAGACTGAC AAGGCCATGA    8820

ACATTGCGGT CAAACAATTA GACGGCTCCC TTTCTGACCT CATTAACAAT ACCCGTCAAG    8880

AAATCCTCAA TACACTTGCC CAAGTTGAGG TCAATATCGA CTATCCTGAG TATGACGATG    8940

TTGAGGAAGC CACTACTGCT GTTGTCCGAG AGAAGACAAT GGAGTTTGAG CAATTACTAA    9000

CCAAACTCCT TAGGACAGCA CGTCGTGGTA AAATCCTTCG TGAAGGAATT TCAACGGCTA    9060

TCATTGGACG TCCCAACGTT GGGAAATCAA GCCTTCTCAA CAACCTCTTG CGTGAGGACA    9120

AGGCTATCGT AACAGATATC GCTGGGACAA CACGAGATGT CATCGAAGAG TACGTCAACA    9180

TCAATGGTGT ACCTCTCAAA TTGATTGATA CAGCCGGTAT TCGTGAAACG GATGATATCG    9240

TTGAACAAAT TGGAGTTGAG CGTTCGAAAA AAGCTCTTAA GGAAGCTGAC CTAGTTCTGC    9300

TAGTACTAAA CGCTAGTGAA CCACTAACCG CCCAAGATCG CCAACTCCTA GAAATCAGTC    9360

AGGAGACTAA TCGCATTATT CTTCTTAACA AAACTGACCT GCCTGAAACG ATTGAAACTT    9420

CGGAACTACC TGAAGATGTC ATCCGCATTT CAGTTCTTAA AAATCAAAAC ATCGATAAAA    9480

TCGAAGAGAG AATCAACAAC CTCTTCTTTG AAAATGCTGG TTTGGTTGAG CAAGATGCTA    9540

CCTACTTGTC AAACGCCCGT CACATTTCCT TGATTGAGAA GGCCGTTGAA AGCCTACAAG    9600
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714

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CTGTTAACCA AGGTCTTGAA CTAGGGATGC CAGTTGACTT GCTTCAAGTT GACTTGACCC     9660

GTACTTGGGA AATTCTAGGA GAAATCACTG GAGATGCTGC TCCAGATGAA CTCATCACCC     9720

AACTCTTTAG CCAATTCTGT TTAGGAAAAT AAGAAAAATC CATGATCCTT CATTCGGTCA     9780

TGGATTTTAG GTTCTATAAT ATTTGTAGTG GGTAAATCCA CTATAGATAT TATGGAGCCT     9840

ATTTTATTGT AGAAAAAAAG TCCCATATGA CCTATAATGA AAAGCGACAA AACAACTCAT     9900

TAGAAAGAAT CATATGGAAC AATTACATTT TATCACAAAA TTACTAGACA TTAAAGACCC     9960

TAATATCCAG ATTTTAGACA TCATCAATAA GGATACACAC AAGGAAATCA TCGCCAAACT    10020

GGACTACGAC GCCCCATCTT GCCCTGAGTG CGGAAACCAA TTGAAGAAAT ATGACTTTCA    10080

AAAAACCTTC TAAAATTCCT TATCTTGAAA CGACTGGTAT GCCCACTAGA ATTCTCCTTA    10140

GAAAGCGTCG ATTCAAGTGC TATCACTGTT CAAAAATGAT GGTCGCTGAA ACTTCTATCG    10200

TCAAGAAGAA TCACCAAATC CCTCGTATCA TCAACCAAAA GATTGCTCAA AAGTTAATTG    10260

AAAAGATTTC TATGACTGAT ATTGCCCATC AGCTTTCCAT CTCAACTTCA ACTGTTATTC    10320

GTAAGCTCAA TGACTTTCAC TTTAAACATG ATTTTTCTTG TCTTCCTGAG ATTATGTCTT    10380

GGGATGAGTA TGCTTTTACA AAAGGGAAGA T                                   10411
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(2) INFORMATION FOR SEQ ID NO: 90:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2393 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

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GTTTTGGGTT CTGGAAATTA TCAGATGGTT GGAAAAGCCG TCCACATCAA GATAGTGTTC       60

GGAGATTTAA GTTTAAATTG AAGAAACTAA CACAGAGGAA ATGGAGTATA GACCTAACAA      120

GACGTATTGA GCAACTGAAT TTGTCTATTC GAGGATGGAT AAACTATTGC TCATTGGGAA      180

ATATGAAAAG TATAGTCGCC AGCATAGATG AGCGCTTGCG TACTCGCCTA CGAGTGATTA      240

TCTGGAAGCA ATGGAAGAAG AAATCGAGAC GATTATGGGG ATTGCTTAAG TTAGGAGTTC      300

CTAAATGGAT AGCAGATAAG GTATCTGGCT GGGGCGACCA TTATCAATTA GTAGCTCAGA      360

AGTCGGTACT TAAACGTGCT ATATCAAAAC CAGTCCTGGA AAAACGTGGA CTGGTTTCGT      420

GTTTGGATTA TTACCTTGAA CGACATGCGT TAAAAGTTAG TTGAACCGCC GTATGCCAAA      480

CGGCACGTAC GGTGGTGTGA GAGGGGCTAG AGATTATCCC CTACTCGATT AACTCCCCTG      540

AAATTTATTT TAATTATGCA AATTTCACGT ATTTTTGATG CTGAGACGAC GATCCTGGGA      600
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715

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ACTTTTCAGA TATTTTTTTG ACTATCTAAA TCTATCATTA GAAAAGCTTA GAGCGCCAAA    660

GGATTTGAGC GTTTTTCTGA TTTTTAAGAC TTTTTCCAGT CTCTTTTTCG ATTGAAGATG    720

TAATTATTCT ACTAACTAAC TAACTTCTTA GTACTAGCCA ACAACGATAA TCATAATTCC    780

TCCTAAAATT AGGAATAATA AAGGCAATAG TTTTTGTTTT TTCATGTAAA AAACCTCACT    840

TTTGTTTTCT GCTATTTTAT GCTAAAATAT TAAAAATCAA ATTTAATTCC AAAGTTTGTA    900

ACTAAAGGGG GAGCGCTACA TGTCTAATTC ATTTGTCAAG TTGTTAGTCT CTCAATTATT    960

TGCAAATTTA GCAGATATTT TCTTTAGAGT AACAATCATT GCTAACATAT ACATTATTTC   1020

AAAATCAGTA ATTGCCACAT CACTAGTTCC TATCTTAATA GGAATATCCT CTTTTGTTGC   1080

GAGTCTTTTA GTTCCGTTGG TTACTAAAAG GTTAGCGCTA AATAGGGTTT TATCTTTATC   1140

TCAATTTGGA AAGACTATAT TATTGGCGAT ACTGGTAGGA ATGTTTACCG TAATGCAATC   1200

CGTAGCGCCT TTGGTGACCT ATCTATTTGT TGTTGCAATT TCCATACTAG ATGGTTTTGC   1260

AGCACCCGTT TCCTATGCTA TTGTGCCACG CTATGCGACC GATTTGGGTA AGGCTAATTC   1320

AGCCTTATCA ATGACTGGTG AAGCTGTTCA ATTGATAGGT TGGGGATTAG GTGGACTCTT   1380

GTTTGCAACA ATTGGTCTGT TACCTACCAC GTGTATCAAT TTAGTCTTGT ATATCATTTC   1440

TAGCTTTCTG ATGTTATTTC TTCCTAACGC TGAAGTGGAG GTGTTAGAGT CAGAAACTAA   1500

TCTTGAAATT TTGCTCAAAG GTTGGAAGTT AGTTGCTAGA AATCCTAGAT TAAGACTTTT   1560

TGTATCAGCA AATTTATTGG AAATTTTTTC AAATACGATT TGGGTTTCTT CCATTATACT   1620

TGTTTTTGTA ACGGAGTTAT TAAATAAAAC GGAAAGTTAC TGGGGATATT CTAATACAGC   1680

ATACTCTATT GGTATTATAA TTAGTGGCTT AATTGCTTTT AGGCTATCTG AAAAGTTCCT   1740

TGCTGCTAAA TGGGAACCCC AATTATTCAC CCCAAATCTA AAAACCATCC AGAATCCTTG   1800

CCTTAGCTTA GATCCTGGAT GGTTTCTTTT TTCACCCAAT GGGTGTTTTT TACTAGACAA   1860

AAAAGAGTTT CCCCTTTATG GTATAAGTGT AGAAAAAAAC ACAAAAAGAA AGGAAACTCA   1920

CATGAACAGT TTACCAAATC ATCACTTCCA AAACAAGTCT TTTTACCAAC TATCTTTCGA   1980

TGGAGGTCAT TTAACCCAGT ATGGTGGTCT TATCTTTTTT CAGGAACTTT TTTCCCAGTT   2040

GAAACTAAAA GAGCGGATTT CTAAGTATTT AGTAACGAAT GACCAACGCC GCTACTGTCG   2100

TTATTCGGAT TCAGATATCC TTGTCCAGTT CCTCTTTCAA CTGTTAACAG GTTATGGAAC   2160

GGACTATGCT TGTAAAGAAT TGTCAGCTGA TGCCTACTTT CCAAAATTGT TGGAAGGAGG   2220

GCAGCTTGCT TCACAGCCAA CCTTATCCCG TTTTCTTTCC AGAACTGACG AGGAAACAGT   2280

CCATAGTTTG CGATGCCTCA ACCTTGAATT GGTCGAATTC TTTTTACAGT TTCACCAGCT   2340
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716

AAACCAACTC ATTGTAGATA ACGATTCTAC CCATTTCACA ACTTATGGCA AGC   2393

(2) INFORMATION FOR SEQ ID NO: 91:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4762 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 91:

TTTGTATCTT TTTAGGTCTC TTTCAATCCA AACCCTTTAA ACTATACGTC ATTTCGGTTC   60

CTGCAAGTCT TGTGGTAATT TTAGGTTTGA TTTTACTTTT CTTTTCACAA GAGCCTCTGC   120

ACGCTTCTTA TTTGATGGTC GTCTTCCCTG TTTTCCTACT TTTATTGGTA ACCAATATTA   180

AGAGTCAACA GAGGGGGCGT AGTGCTAGAA GAAGCCGAAG AGAAACGCCA TTATGCCTAT   240

GGAGTCGTTT CTTCAAAGGA AATCTATATC TGCTAGTTTT TGGGTTTGTC TATCTTTTGT   300

CTGTTCCTTT TTTGATGAAG TTTGTCCTTT ATCCAGTACC TTATCAAGAA CGTAATCGTC   360

TTGCTGATTT GGTAAAAGAG GAGACAAATA CGGAAGATGC TATCTCATGC ATGGGATGAT   420

ACTGCGACTC TTTATCGTAA GAGTGAGCGC TTGTCCCATC GGCGATTTTG TCCCCGTTGC   480

ACTATACAGC AACTGAGGAA AATCGTAATA AGTTACTTAA TGACTTGAAA GAAAAACAAC   540

CTAAGGTGAT TGTGGTAAAT GATAAGGTGG TAGTCTGGTC TGAAGTGGAA ACACTCTTAA   600

AAGAAAATTA CCAACAAGTA AAGACTGATT ACTCAGAGTT TAAAGTCTAT AAAATTAAAT   660

AACCAAATCA ATATCTTGTG TATTTTTAAA AATTTTAGGA TTTTTAACAC AAGATATTGA   720

TTTTTCTTTT TAGAGTGGTA TAATACTTTT TAGAAAGAAC ATTTTAGAAA AGAGCATGCA   780

TATGATTGCA CTAGAAGAAA AAATTACAAT TTTGCCAACT CTCTTCGTCG AGAAACGAGA   840

TGGGAGACGT GTTGTATTTG ATGTGGACAA GATTGACAAG GCTCTCCACA AGGCGGCTGA   900

CAAGGTTATG GATGTGACAC CCCTGGTTGA AAAATGCCTC AATGATCTGA CTGAGCGAAT   960

TATTACAGAA ATTCATAGTC GCTTTCCACA GGGAATTAAG ATTTACGAAA TTCAAAATAT   1020

CGTAGAACAT GAACTCCTTG AAGCCAAAGA ATATGCGCTG GCTGAGGAGT ATATTACTTA   1080

TCGGACACAG AGGGATTTTG AGCGCTCAAA AGCGACGGAT ATCAACTTTA GTATTCATAA   1140

ACTTCTCAAC AAAGACCAGA CAGTTGTCAA TGAAAACGCT AATAAAGACA GTGATGTCTT   1200

TAACACTCAG CGTGATTTGA CAGCAGGGAT TGTTGGGAAA TCAATCGGAC TGCAAATGCT   1260

TCCTAAGCAC GTAGCCAATG CCCACCAAAA GGGGGATATC CACTATCACG ATTTGGACTA   1320

CAGTCCCTAT ACCCCTATGA CCAACTGCTG TTTGATTGAT TTTAAGGGTA TGTTGGAAAA   1380

717

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TGGTTTTAAG ATTGGAAATG CAGAGGTAGA GAGTCCCAAG TCTATCCAGA CTGCGACAGC      1440

ACAGATTTCT CAAATCATTG CCAACGTTGC TTCTAGCCAG TACGGTGGCT GTTCAGCTGA      1500

CCGTATCGAT GAAATTTTGG CGCCTTATGC AGAGAAGAAT TATCAAAAAC ATCTCAAAGA      1560

TGCAGAAGAG TGGGTATTGC CTGAAAAACA GGAAGATTAC GCTTGGAAGA AAGCGCAAAA      1620

GGACATCTAC GATGCCATGC AATCTCTTGA GTATGAAATC AATACTCTCT TCACTTCAAA      1680

TGGACAAACA CCTTTTACTT CGTTAGGTTT TGGTCTGGGA ACCAGTCGTT TTGAACGAGA      1740

AATTCAAAAA GCTATTTTAA ACATTCGCAT CAAGGGTCTT GGTTCAGAAC ACCGTACGGC      1800

TATCTTTCCT AAACTTATCT TTACGCTTAA AAGAGGCCTC AACTTAGAGG AAGGAACTCC      1860

CAACTATGAC ATCAAGCAGT TGGCTCTAGA GTGTGCAACC AAGCGGATGT ATCCAGACGT      1920

CTTGTCTTAT GATAAGATTG TTGATTTGAC AGGTTCTTTC AAGGTGCCTA TGGGCTGCCG      1980

TTCTTTCCTT CAAGGGTGGA AGGATGAAAA TGGTGTAGAA GTCAATTCAG GTCGCATGAA      2040

TCTGGGTGTT GTGACGGTTA ATCTGCCTCG TATTGCTCTT GAGTCTGAAG GTGATATGAA      2100

TAAGTTCTGG GAAATCTTCA ACGAGCGAAT GAATATCGCA GAAGATGCTC TTGTTTACCG      2160

TGTCGAACGC ACTAAAGAGG CGACACCAGC GAATGCTCCT ATTCTTTATC AGTACGGTGC      2220

TTTTGGCCAT CGTCTAGGTA AAGAAGAAAG TGTTGACCAG CTCTTTAAGA ATCGTCGTGC      2280

GACCGTTTCG CTGGGCTATA TCGGCTTGTA TGAAGTAGCG ACAGTTTTCT TTGGTAACAG      2340

CTGGGAAAGT AATCCAGATG CTAAGGAATT CACGCTAGAC ATCATTCACG ATATGAAACG      2400

CCGTGTAGAA GAGTGGTCAG ACCAATATGG CTACCATTTC TCTATCTACT CAACACCATC      2460

CGAAAGTCTG ACAGACCGTT TCTGCCGACT AGATATAGAC AAGTTTGGCT CTATTCCTGA      2520

TATCACAGAC AAGGAATACT ACACCAACTC TTTCCACTAC GATGTTCGTA AAAATCCAAC      2580

ACCGTTTGAA AAATTGGACT TTGAGAAAGT CTATCCGGAA GCAGGTGCGT CAGGTGGTTT      2640

CATCCATTAT TGTGAGTATC CAGTCCTTCA GCAAAATCCA AAGGCCTTGG AAGCTGTCTG      2700

GGATTATGCT TATGACCGTG TAGGCTATCT AGGCACCAAT ACTCCGATTG ACCGTTGCTA      2760

CAAGTGTGAC TTTGAAGGGG ATTTTGAACC AACTGAGAGA GGGTTTGCTT GTCCAAACTG      2820

TGGCAATAGC GACCCTAAAA CAGTAGATGT GGTGAAACGA ACTTGTGGCT ACCTAGGTAA      2880

TCCTCAAGCA AGACCGATGG TCAACGGGCG TCACAAGGAA ATCGCTGCGC GTGTCAAACA      2940

TATGAATGGT TCAACGATTA AAATAGCTGG GCATCAAGTA ACAAATTAGA AAGAAATGAA      3000

ATGGGAAAAT ATCAACTAGA CGATAAGGGG CGCGCACAAG TGACCCGTTA TCACGAGAAA      3060

CACTCTAAAG GTGGAGCTGG TAAGAAAGAA CGCTTGCTTA GCTTCAGAGA ACAATTTTTA      3120
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718

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AACAAGAACA AGAAAAAATA AAAGTGAGAG CCAGCTCTCG CTTTTCTCAT AGTGGGAGGT    3180

AAGGATGGAA TTACGCAGAC CAAGATTAGC GGATAAGAAA GCTGTTTTAG ATATGATGAC    3240

AGAGTTTGAA AAATTTCAGT CGCCTCACGA CGGCGGTTTC TGGGATACAG AGAACTTTGT    3300

GTATGAAGAC TGGTTAGAAA GCAATCAGGA ACAGGAAATG GGGATTAATC TGCCTGAAGG    3360

ATGGGTTTCT GCAATTCAGT TAGTGGCTTT TTCTGAGAAA GGTCAAGCAG TTGGATTTCT    3420

TAATCTCCGG TTGCGCCTCA GTAACTTTCT ACTAGAAGAA GGTGGCCACA TTGGCTACTC    3480

CATTCGTCCA TCTGAAAGAG GCAAGGGTTA TGCAAAAGAG ACTCTCCGTC AGGGCTTGCA    3540

AGTTGCTAAG GAAAAGAACA TCAAGAAAGC TCTGGTGACC TGTAGTGTGA ATAATCCTGC    3600

TAGCAGAGCA GTCATTCTAG CAAATGGTGG AATATTTGAG GATGCTCGCA ATGGAGTCGA    3660

GCGTTATTGG ATAGAGGTAG CGAATGAATA ATCCAAAACC ACAAGAATGG AAAAGCGAGG    3720

AACTTAGTCA AGGTCGTATC ATTGACTACA AGGCCTTTAA CTTTGTGGAC GGCGAAGGCG    3780

TGCGCAACTC TCTCTATGTA TCAGGCTGTA TGTTTCACTG CGAGGGATGT TATAATGTTG    3840

CGACTTGGTC TTTTAATGCT GGCATTCCCT ATACAGCAGA ATTAGAAGAG CAGATTATGG    3900

CAGACCTTGC CCAACCCTAT GTTCAAGGCT TGACTTTGCT GGGAGGGGAG CCTTTTCTCA    3960

ATACTGGGAT TCTCTTGCCA CTTGTTAAGC GGATTCGGAA GGAATTGCCA GACAAGGACA    4020

TCTGGTCCTG GACCGGCTAC ACTTGGGAAG AAATGATGTT GGAAACTCCA GATAAACTGG    4080

AATTCTTGTC ACTGATTGAC ATTCTTGTCG ATGGAAGATA TGATCGAACT AAGAGAAATC    4140

TTATGCTCCA GTTTCGAGGT TCATCTAACC AACGAATTAT CGATGTGCAA AAATCGCTCA    4200

AAAGTGGGCA AGTAGTGATT TGGGACAAGC TCAATGACGG AAAAGAAAGC TATGAACAGG    4260

TGAAGAGAGA ATGAAGAAAA AGGACTTAGT AGACCAACTA GTCTCAGAGA TCGAGACGGG    4320

GAAAGTCAGG ACACTGGGAA TATACGGTCA TGGAGCTTCA GGTAAATCAA CCTTTGCACA    4380

GGAATTGTAC CAAGCTTTAG ATTCTACTAC AGTAAATTTG CTAGAGACAG ATCCTTATAT    4440

CACCTCAGGA CGCCATCTGG TAGTACCCAA GGACGCGCCG AATCAAAAGG TGACAGCCAG    4500

TCTGCCAGTG GCGCATGAAC TGGAGAGTTT GCAGAGAGAT ATCCTTGCTT GCAGGCGGGT    4560

ATGGATGTCT TGACAATTGA AGAACCTTGG AAGGCTAGTG AGGTCTTGTC TGGAGCCAAA    4620

CCAATTTTGA TTGTCGAAGG GATGTCTGTT GGCTTTCTAC CCAAGGAACT CTTTGAAAAA    4680

ACCATCTGTT TCTACACGGA TGAGGAGACC GAATTAAAGC GACGCCTTGC TAGAGATACG    4740

ACTGTGAGAA ATCGCGATGC GG                                            4762
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(2) INFORMATION FOR SEQ ID NO: 92:

    (i) SEQUENCE CHARACTERISTICS:

719

(A) LENGTH: 3832 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

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GATGCAGGTT TCGACCCACA TATTCCAGAA AATTACTTTA AAGATGATGA TGTTAATCAG        60

GTACCTTGTC TTTGTTGGTC TTCATCTGCA GCCCTCTTTT TCAGTAATTG GGTAGACCAT       120

GCGGTCTATC AGGAGACGCC TTTTGATTGG AGAAAGATAG AAGATGATGC ATCTGCATAT       180

GGGTATTTAT AAGAGGAATT ATGACATATT TAGACGCTTT TAAATCAGGT ACCTTGGTTT       240

TACCGAGTGC CCTGCTCTTG CATTTTAAGG AACTCTTTCC TTCTAGCGAC GATTTTCTGG       300

TTTGGCAATT TTTCTATTTG CAAAATACGA CAGGCTTAGA AGAAATGTCG CCAAGCCAGA       360

TTGCTGAAAG GATTGGCAAG GAAATTTCGG ATGTCAACCA GTCCATTTCT AATCTGACGG       420

AAAGGGGACT GCTCCAGTAT CGTACTATCG AATTAAATGG CGAAATTGAA TTGCTCTTTG       480

ATGCTAGTTT GGCCTTGGAA CGTTTGGATG ACCTGTTTGG AGCAGTTCAT TCAAGTTCAG       540

ACCAGCTAAC ACCTCAAAAC CAGCTCAAGG ATTTGGTGGA AACCTTCCAG CAGGAGTTGG       600

GACGATTGTT GACGCCTTTT GAGATTGAGG ATTTGACCAA GACACTAAAG GAAGATGGAA       660

CCAGTGCTGA CTTGATTAAG GAGGCTCTTC GTGAAGCTGT TTTGAATGGA AAACCAAACT       720

GGAAGTACAT TCAGGCGATT TTGAGAAACT GGCGCCCATGA AGGAATCAAG AGTGTGGCTC       780

AAATTGAGGC CAAGAGAGCA GAAAGAGAAG CAAGCAATCC TCAGTTGACA CAGGTATCTG       840

CAGATTTCAT AAATGCCATG GATCTCTGGA AGGATTAATC CATGCAAGTA GGCTTGAAAT       900

CCGAGTAAGA TTTGCAAGCT GTGTATAATT GTGATAGAAT AAATAGAAAA TAAATTGAAA       960

AAAGAGGTAT GTGAAATGTC ACGTAAACCA TTTATCGCTG GTAACTGGAA AATGAACAAA      1020

AATCCAGAAG AAGCTAAAGC ATTCGTTGAA GCAGTTGCAT CAAAACTTCC TTCATCAGAT      1080

CTTGTTGAAG CAGGTATCGC TGCTCCAGCT CTTGATTTGA CAACTGTTCT TGCTGTTGCA      1140

AAAGGCTCAA ACCTTAAAGT TGCTGCTCAA AACTGCTACT TTGAAAATGC AGGTGCTTTC      1200

ACTGGTGAAA CTAGCCCACA AGTTTTGAAA GAAATCGGTA CTGACTACGT TGTTATCGGT      1260

CACTCAGAAC GCCGTGACTA CTTCCATGAA ACTGATGAAG ATATCAACAA AAAAGCAAAA      1320

GCAATCTTTG CGAACGGTAT GCTTCCAATC ATCTGTTGTG GTGAATCACT TGAAACTTAC      1380

GAAGCTGGTA AAGCTGCTGA ATTCGTAGGT GCTCAAGTAT CTGCTGCATT GGCTGGATTG      1440

ACTGCTGAAC AAGTTGCTGC CTCAGTTATC GCTTATGAGC CAATCTGGGC TATCGGTACT      1500
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                              720
GGTAAATCAG CTTCACAAGA CGATGCACAA AAAATGTGTA AAGTTGTTCG TGACGTTGTA      1560

GCTGCTGACT TTGGTCAAGA AGTCGCAGAC AAAGTTCGTG TTCAATACGG TGGTTCTGTT      1620

AAACCTGAAA ATGTTGCTTC ATACATGGCT TGCCCAGACG TTGACGGTGC CCTTGTAGGT      1680

GGTGCGTCAC TTGAAGCTGA AAGCTTCTTG GCTTTGCTTG ACTTTGTAAA ATAATCAGTA      1740

AGTAGCAAAA GCTAGGTGGA ACAGCATTCA GATGTCTGTT ACATTTTTTA TAGGAGAGAA      1800

AGATTGAAAA CAAAAATTGG ATTAGCAAGT ATCTGTTTAC TAGGCTTGGC AACTAGTCAT      1860

GTCGCTGCAA ATGAAACTGA AGTAGCAAAA ACTTCGCAGG ATACAACGAC AGCTTCAAGT      1920

AGTTCAGAGC AAAATCAGTC TTCTAATAAA ACGCAAACGA GCGCAGAAGT ACAGACTAAT      1980

GCTGCTGCCC ACTGGGATGG GGATTATTAT GTAAAGGATG ATGGTTCTAA AGCTCAAAGT      2040

GAATGGATTT TTGACAACTA CTATAAGGCT TGGTTTTATA TTAATTCAGA TGGTCGTTAC      2100

TCGCAGAATG AATGGCATGG AAATTACTAC CTGAAATCAG GTGGATATAT GGCCCAAAAC      2160

GAGTGGATCT ATGACAGTAA TTACAAGAGT TGGTTTTATC TCAAGTCAGA TGGGGCTTAT      2220

GCTCATCAAG AATGGCAATT GATTGGAAAT AAGTGGTACT ACTTCAAGAA GTGGGGTTAC      2280

ATGGCTAAAA GCCAATGGCA AGGAAGTTAT TTCTTGAATG GTCAAGGAGC TATGATGCAA      2340

AATGAATGGC TCTATGATCC AGCCTATTCT GCTTATTTTT ATCTAAAATC CGATGGAACT      2400

TATGCTAACC AAGAGTGGCA AAAAGTGGGC GGCAAATGGT ACTATTTCAA GAAGTGGGGC      2460

TATATGGCTC GGAATGAGTG GCAAGGCAAC TACTATTTGA CTGGAAGTGG TGCCATGGCG      2520

ACTGACGAAG TGATTATGGA TGGTACTCGC TATATCTTTG CGGCCTCTGG TGAGCTCAAA      2580

GAAAAAAAAG ATTTGAATGT CGGCTGGGTT CACAGAGATG GTAAGCGCTA TTTCTTTAAT      2640

AATAGAGAAG AACAAGTGGG AACCGAACAT GCTAAGAAAG TCATTGATAT TAGTGAGCAC      2700

AATGGTCGTA TCAATGATTG GAAAAAGGTT ATTGATGAGA CGAAGTGGGA TGGTGTCATT      2760

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GCTGAGAGTG ACGCTAAACA GACCATTGAA CTTATAAAGA AATACAATAT GAACCTGTCT      2940

TACCCTATCT ATTATGATGT TGAGAATTGG GAATATGTAA ATAAGAGCAA GAGAGCTCCA      3000

AGTGATACAG GCACTTGGGT TAAAAATCATC AACAAGTACA TGGACACGAT GAAGCAGGCG      3060

GGTTATCAAA ATGTGTATGT CTATAGCTAT CGTAGTTTAT TACAGACGCG TTTAAAACAC      3120

CCAGATATTT TAAAACATGT AAACTGGGTA GCGGCCTATA CGAATGCTTT AGAATGGGAA      3180

AACCCTCATT ATTCAGGAAA AAAAGGTTGG CAATATACCT CTTCTGAATA CATGAAAGGA      3240

ATCCAAGGGC GCGTAGATGT CAGCGTTTGG TATTAAGCGA TGATTTGAAA GAGGGATGTG      3300
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721

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ATAGTAGCAC CCTCTTTTTC TTTGTTTTAT GATAGTTCAT CCTCGAGTAA ATTCAAGTTC    3360

TTGCTCGGAA ATGAAGCTTA TATAGTAGAT TGAATATAGA CAAATACCTT GTGATTGGTA    3420

AAACATTTTA GAAATTCATT TACCTTTCCT AATCGACTTG GTTTCATCTT ATTTCAATCT    3480

ATTATAGTAT TGGGGAATTT CTTCAAACCA CATCAGCTTG GTCAGTTCTA CCTGCGACCT    3540

CAAAACTTGT GCTTTGGTCA AGCTGGGTTT AGTTTCCTAG TTTGCTGATG GATTTCCATT    3600

GACTATAAGC ATCCAACCCT CTTTTTGTCT TCTAAAGAAT TCTTAAATTA TCAGTCTATT    3660

GCAACTTTTC TCATATAAGT TCTTTGTCTT GCTATTGGTT TTCCTTAGTA GTATACTAAG    3720

GTAGTAATCA TTAAGAAGTG GTTACAAAAA ATAATGAATG AGGTAAAGAA AATGGTAGAA    3780

TTGAAAAAAG AAGCAGTAAA AGACGTAACA TCATTGACAA AAGCAGCGCC GG            3832
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(2) INFORMATION FOR SEQ ID NO: 93:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 10690 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

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TGAAAAAATC CTCATGAACC TGGCGCCAAT AGACAAGTGT CTTGTTTCCC TCACCTTCCT     60

TATAGGCATG GTCAGCTGAC ACTCGATTGA AGGGTTTAAC AGAAACCTTT GTAATTTCGA    120

CAATGCAGAC AGCCTGATTT TGACTATCTA AAATGACATC GAAGGTCCCT ACTTGGGGAA    180

GTGGTTCGTC TTCTAGCACA TAGAGGTCAT AGGCTGATGC TGTTGCTGTC TTTTCTCCTT    240

TAAACACCAA ATCCGCTAAA AGGTCTGGTT CAACTCCAAA AGCCCAGGCA TCGATTTCAT    300

CTCCGATCAA AGGATTGATT TGCTTGTATT TATTCCACAT TTCTTGCGGT ATCATGGGTG    360

CTCCTTTGTA ATTTTTTACT TTCTTCTTTT ATGTGTTTAA GATGATCTGG ATGGTCAATC    420

TCTAAATCAA AAATCTCTGG AATAGAACTG TAGTGGATAA TGCACTTGAT ACCCAACTGA    480

TTCATTTTTT GTATGAAAGA AGTATTCAGA TAGCCTGCTA CAGCAAAATC AATCTTGTTC     540

TTTCTTGCTT TATCCTGCAT ATCTCTTAGC ATATCTAACA TTATTGGACT TTCCATATCA    600

TGCCATTGAC TGTTTCTCAT AGTCGCAAAA ACAAAGGAAG TCAAATCATT CATTCCAACT    660

ACAATCTTTG AAATGCCCGT TTCCAGTATA CTAGATAAGT CAAAATACGC TGACGGTAAT    720

TCAATCATCG TTCCGACTTT CCCAGTAAAA CCCTGCTGAC GCAATACTGT AATAGCTTGT    780

TTTAATTGGT CGGCATCATT GACAAAAGGA AAGATAACAG ATAGATTGGG GTTGGTTTGA    840
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722

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TAAACTTCTG TAACGACATG TGCTTCAGCC TGAAATTCAT CCAAACACGC CAGTAAACGC        900

CTAGTTCCTC TATAGCCAAA CAAGGGATGC CCTTCGTCAA AAAACTCTTT AGTCCCCACT        960

AAACAATTGG CTTCTGTATT CGTTAATTCA GTAAAACGAT ACCAAACTTC CTTACCTAAG       1020

TAAAAGGAGC AAATAGTATC AAGATAATCT TTCACAAATT CCTGACAACT TTGTAATAGT       1080

ATATTTTGAT TGAGCTCTCT CAATAAGTAT TCCCCACGAA TCATGCCGAC GTGGTGAAAT       1140

AGTTGAGGAT AAATTTTTTC AAGAATTTTT TCGCCACTAA GGGCAAGTTG ATTTCTCATC       1200

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CTTAACCTTC AAGACTAATG GCGATGCATT TTCTTCTGTA ATCTCTTGAA TATCCATCCA       1320

AAATATATCCA AGTGAATCAT TCGCACCATC AGACACAGCT TCCGAAATCG TAACTTGAGG       1380

TGCACTCTCA TTCATTTCAA CATCATACAA GGCTATGACA TGGTGAACCA TAAAATTTTT       1440

TAACTCTTCC CTGACGAAAA CATCGTAGAT TCGAGGATTA GAGTAGCTTC TAACAGTAAA       1500

TCCCGTCTCT TCCATAACTT CTCTAGTCAG CGTTTCCGTC AGTCCTTCAC CAAGTTGCTG       1560

ACTGCCTCCA GGTAGATCAT ACCGATGTTG ATAAGGGCCT CTCGTTTTTT CAATGCAAAG       1620

TAACTTTCCA TTTTCAAAGC AAACACAGTA GACCCCAAAG TGATTTTTGA TTTCCATCCA       1680

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TCGCTTTTCC ACTTGCTAAA AAAAGACTAA GCTCTGCTAT TTCCTCTGGC TCAATCCAGC       1800

GCTTGATTGG GGTTTCACTA GCCACCCAGT CAGCCAAACC ACCTGGTTCA AAATCCGCAG       1860

CGGTCATAGC TGTCTTGACT GCTCCTGGAG CGATACCAAA GACCTGAATC CCAGCTTCAG       1920

CATAGTCTAG AGCCAACTGC TTGGTGAAGC CAGCCAAGGC ATGCTTGGAT GAAGTATAGG       1980

CGTGACCACC TCCACCTGCT AGGCTAGAAG CAATGGAACA CATATTGATG ATGATTCCCT       2040

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CACCTTGGTC AACTCCATAA ACTTGATAGC CCTTCTCTAA AAAGAGGCGA GCTTGAGCCA       2340

ATCCGATCCC TGAACTCACT CCTGTAATGA GTACACGTTT AGTCATGCAC TTCTACCCAA       2400

TCCGTTGCCA AAACATCACA AACTGTCGGG CTCCACATGG AAAAACCTTC TCCTTCGCCA       2460

GAAACGTTGA TTAGGAAATA AGGTGTCATT TCAAGTGCAA GCCCATTTTG CTCGATGGTA       2520

TCAAAGAGTT GGACATAGTT TTCCGCACCT CCCCAACCAG TTCGTACATA TTTTCTCTTA       2580

GCCTTTAACC CAGGCAGGAT CTCTTCAAAT GTCATGTTTT TCTCCTTTAA TTCTACATTC       2640
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723

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TTGTTAAGCT AAAGTTTGCC GCTCGGCTAA CTTCTCTCAA GTGCTTAGGA TTTGTTGTAC    2820

CTACGACTGC CTGCATTTTT GCTGGATAAC GCAATATCCA AGAAATGGCA ATAGTTGAAG    2880

AGGTTACTCC ATATTTAATA GCTAAACGAT CAAGTACTTG ATTTAAAGCT TGAAATTTCT    2940

CATTTCCAAC AAAATTCCCT TTAAAATACC CGAATTGTAA GACAGACCAT GCTTGAATGA    3000

CCACATCGTG TAATTGGCAA TATTCAAAAA TGCTGCCATC TCGCATAGCT GCTTGACTAT    3060

CTTCCATATT AACATGAAAA GCTGATTCAA ATCCTGGAGT AAAAGCCGCA CTCAATTGTA    3120

GCTGATTAAC AGCTAACGGC TGCTTGACAT CTTTTTTAAG CAACTCCATC ATCATAGGAT    3180

TTTGATTAGA AACTCCAAAA TCTCGAACTT TACCTTGTTT ATAAAGGAGA TTAAAGGCTT    3240

CTGCTACTTG GTCAGATTCC ATCAAAGCAT CTGGTCGATG AAGGAGCAAG CTATCTAGAT    3300

GATCAATCTT CAATCTTTGC AAAATACCGT CTACTGATTT TATAATATAG TCCTTAGAAA    3360

AATCAAAATA GGTAAATTCT TCAATGCGAA TGCCACATTT GGACTGAATC CACATCTTTT    3420

CTCTTAAATC TGGACGATTT TTTAGGACAA GACCTAACAG TTCTTCACAA CGACCACGAC    3480

CATAAATATC AGCCAAGTCG AAGGCATTGA TTCCAACAGA AAGTGCTGTT TCTACAAGCT    3540

CTTCAACTTC TTTTACAGAT TTATCTTTTA TTCTCATCAT TCCGAGAACA ATTTCTGATA    3600

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TAAAGGAATA ACTTTTGTAA GGAAACATT TGAAATTCCC ATCCACTCAT AATAACGGAG     3840

CAGAGAACCC ACCACAAGAT GGGCAATAAT CATACTGACA AATGGACGAA AGACCGCTTC    3900

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AGCCGGAATA TAAAAGGCTC CTTCTTGTAT GAAGCTTGCC ATTCCTACAT ATCCTAAAAC    4020

AACTAGAAGA ACTATAGTCC CAACAACAAT GTAAGTGCCA ATTTTCATTT TAGGAGAATC    4080

TTGGACTAAA CTTCTTCGTA AAATTGTGGC CACAAGTCCA AATCCAATCA GAAAAATAAG    4140

AAGTTGCCCT AAAAATGTGA GCAAATTGAC TGTTAAGAGA GGACCTTTAG AAAAATCACT    4200

TAGTAGTTGA TAATAACGTA ATACCGCCAG GACAAGAATT GGCGTCAAAA GGGACTCTTT    4260

GATAGAACTG CGAGGTGCTC CCTTGAGAAT CTCTTTCATT ATTTTTTTAG GATTCTTACC    4320

TAGATAATCC TCTGCACTCA TGCCATCTCG TTCTGCTTCT GAGAAATCTA GCATCATCAA    4380
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724

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CCACAACTCC TCAAAATACT TTTGATTCTC CTCAGAAAAC TCATGTAGCA AAGCGCTTGT    4500

TTCTTCGTAA TACTTCATTT TCTTCATGGT TTAACCCCCA TTCTTAATCC CTTCTACTTT    4560

TTGACTCAAA TCGTCCCATT GTTGCCAAAA GACTGAGACA CGCTCTTCTC CTTCTTTCAT    4620

TAATGAAAAA TACTTCCGAT CTGGACCATC TGGCGACGGG CGCATGTCGC CTCTTATCCA    4680

TTGATTTTTT TCTAACTTTT GCAACAAAGG ATAAATAGTT CCTGGAACGA TAGTATCAAA    4740

TCCAGCCTCT CGCAAAGTCT GAACCAACTC ATAACCATAC CGCTCTTTTT GACCAATCAT    4800

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GCCCTACCGT ATGTATGGTT ACTGACTTCG TCAGTTTCAT CTACAACCTC AAAAACATGT    5040

TTTGAGCTGA CTTCGTCAGT TTCATCTACA ACCTCAAAAC AGTGTTTTGA GCTGACTTCG    5100

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ACCCTGGCTG ACATATTTTT TCATCATTTT ACGTGGTTTG AGGTTAGCAA CGATTTGAAC    5460

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GATTTCATCC TTGTTTAGTT TGAGCTCAAC TTCGTCCGGA TTCCATTCTT TTTCGACTGC    5700

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CATGACACTT GCCAATTGGT CACGAAGAGC TTCATCCTTG CCAAGACCC  ATGGTGCGGT    6000

CTCATCGATG TATTTATTGG TACGAGAGAT CAGAGTCCAG ACTGCTTCAA GCGCACGTGG    6060

ATAGTCAACT GCTTCCATGT GTGTATGGAA GTCTGCGATT GATTGTwCTG CAACCTCAGC    6120

AAGAACATGA TCATATTCAG TCACACCTTC TACATAGGCA GGGATTTGTC CATCAAAGTA    6180
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725

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CTTATTAATC ATGGAAACCG TACGGTTAAG GAGGTTCCCA AGGTCATTAG CCAATTCATA    6240

GTTGATACGG CCGACATAGT CTTCAGGAGT AAAGGTTCCG TCTGAACCAA CTGGAAGGTT    6300

ACGCATGAGG TAGTAACGAA GTGGATCTAG TCCATAACGC TCTACCAACA TTTCAGGGTA    6360

AACGACATTC CCTTTTGACT TAGACATTTT TCCGTCTTTC ATGACAAACC AACCATGGGC    6420

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GTGGAAGCGA AGGATATCTT TTCCTACCAT ATGGAAGACT GTTCCATTCC AGAACTTGTC    6540

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TGCAAATACA ACGGACTCAT CTGCCACCTG GTATTCTCCC TGTTGTAAGC CTGCAAGCTC    7920
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726

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TGTCATTTTT CGTGCCAGTT CTGGACCCAG AGTTGGGGTT AAACTGGTAT CATTCACTCG    7980

AAAGACAATA TTAGCTATTT CATCTACATT AAAATTCGCA GCAAGGGAGA TATTGGTAGT    8040

AATAGGCAAG CCACCAAACC CATATATTTT TGATCTTTTA GCCTCCGGAC TAGTATAAAC    8100

CCCAATGACC CGGTAACTAA ATCCATTGAC TTCTACAACC TTGTTAATAG CCTCTTGAGG    8160

AGATTCAAAT AAACTAATGG ACAATTCCTC ATCTAGCAAA ATGACACTTG CAAACTCTTT    8220

GAAATCTTGC TCTCTCAGAC TACGACCTGC AATAATTTCA TTCTTAACAG CGTCCATGTA    8280

AGTTCTGTTT CCACCTGTCA AATTAGCATT CTCAACCTTT TTATCTTGAT AGGTCAAGAT    8340

GGCATTCGTT GAATTGGTTA CATAGTAACT ATCCACTCCC TTCAGTTTAG CTGCCTCTTG    8400

GACCCAGGAT TCTTGCGGTT TTGGCGGTTC AACAGGAACT TCCTCTTCCT TTCCAGAAAC    8460

CGTAAAAGCT GATTGTTTCT GAGTAAAAGA CCCGTCTTTA CTTTTTTTAG GAGAGAAAAA    8520

GACGCTAATA TTTTTCTGAG ATTTAGTCAT ATCTTTATTG ACTTGACGAG ATAGGGAATC    8580

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CAAAGAACGC ATCTTGTGAG CCATGATAGA TGAAAAGGCA AATTTCAGAT TCTGCATCTT    8700

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CGTAAATCAA GGGCAATTCT ACATTTTGCA GAGCATTGAG CTTCGATAGA AGAAAGAACT    9120

GCTGAAAGAC AAAACCGATT TGTTGGTTAC GGACCTTAGC TAGTTGTTTT TCACCAAGCC    9180

CAGCCACTTC TTGACCTTCA AGATAATATT CTCCACTGGT TGGTGTATCC AACATGCCAA    9240

TCGTATTCAT CAGAGTGGAC TTACCAGACC CAGATGGTCC CATGATGGCT ACAAATTCAC    9300

CCTCATTCAC TTCTAGATTG ATATTTTTGA GAACCTGCAG TTCTTGGTCA CCATTACGGT    9360

AACTTCTGAA GATATTTTTT AGACTAATTA GTTGCTTCAT CAGCCTTCAC CTCTTTTCCT    9420

TCTTCCAAGG AAGATGTTGG ATTACTGATG ACCTTAGCAC CGTTCGTTAA ACCAGAAGTG    9480

ATTTCTTGAT TTTCTGCGTC AGCATTTCCC AATGAAACCT CAACTTTTTT AGCCTTTTGT    9540

TGTTCATCCA CAATCCAGAC ATAATTTTTA CTATCATCCA TTACTAGACT GCTAACAGGA    9600

ACAAGAATAG CCTTAGTTTT GCTTTTAACC TCAATGTTGA CAGAAAAACC TTGTTTCAAA    9660

TCACCAACCT CGCCTGTCAC ATCAATAGTA TAAGGGTATT TAGAACCTGT ATTATTCCCG    9720
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727

GCTGCTGGAC TAGCTGCTTC ACCATTGTTT TTAGGATAGT CAGAAATATA GCTTAATTTC   9780

CCAGTCCATT TTTTATCAGG ATACACTTTA GAAGTAAAGC TTACTTCTTG ACCTACAGAA   9840

AGGTTGGCTA GATTGTACTC AGACAATTCT CCCTTGACTT GTAAATTTTC ATTGCTGACA   9900

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ACTGGCGCTG GTAACTGTGG AGCCGGAGCT GAAGCGGCTT CATTTCGTGC TTGATTGAGT   10200

TCATTGATAT GACGATCTGC CCTAGCTACT GCTCGACTAG CTGAATCATA GGCCGCCTGC   10260

GCTTCTGAAC TACTGTACTT GACTAAAGCC TGCCCTTCGC TGACCTTATC GCCCACAGAA   10320

ACAAGGATTT CATCTAAATC ACCCTTACTA GCATCAAAAT AAACATATTG TTCATTTTTT   10380

GCTGTTACTG TCCCTGACAA TAAAACAGAG GAGGCCACGC TTCCTTCCTT GGCAACAACA   10440

AGATGAGTAG GCTCATCTTT TAGAGCAGTC TGAGAAGGTT GTCTAAAGAG TAAAATCCCC   10500

CCAGCACCCA ATACAACTAC ACTCGCAGCA CCGATTGCTG CATACAGTTG CCACTTTTTA   10560

GCTTTACCAT TCTTTTTCTT CATAATGAAA CTCCTTTTCT TTTTTACAAT ACTTTGCTAT   10620

TATACCAAAT TTCCCTCCAG CAAACAATAC AGTTCAGGAT TAAACAATCG TTCGGAATTT   10680

TGCTTTTCGG   10690

(2) INFORMATION FOR SEQ ID NO: 94:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 8195 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

GAGAAAGCGC CCACGTTTCC CCGAAGGGAG AAAGGCGGAC AGGTATCCGG TAAGCGGCCA   60

GGGTCGGAAC AGGAGAGCGC AACGAGGGAG CTTCCCAGGG GGAAACGCCT GGTATCTTTA   120

TAGTCCTGTC GGGTTTCGCC ACCTCTGACT TGAGCGTCGA TTTTTGTGAT GCTCGTCAGG   180

GGGGCGGAGC CTATGGAAAA ACGCCAGCAA CGCGGCCTTT TTACGGTTCC TGGCCTTTTG   240

CTGGCCTTTT GCTCACATGT TCTTTCCTGC GTTATCCCCT GATTCTGTGG ATAACCGTAT   300

TACCGCCTTT GAGTGAGCTG ATACCGCTCG CCGCAGCCGA ACGACCGAGC GCAGCGAGTC   360

728

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AGTGAGCGAG GAAGCGGAAG AGCGCCCAAT ACGCAAACCG CCTCTCCCCG CGCGTTGGCC      420

GATTCATTAA TGCAGCTGGC ACGACAGGTT TCCCGACTGG AAAGCGGGCA GTGAGCGCAA      480

CGCAATTAAT GTGAGTTAGC TCACTCATTA GGCACCCCAG GCTTTACACT TTATGCTTCC      540

GGCTCGTATG TTGTGTGGAA TTGTGAGCGG ATAACAATTT CACACAGGAA ACAGCTATGA      600

CaTGATTACG AATTCGAGCT CGGTACCCGG AAAATCCAGA AAATGCTTGA AAAAAATCCT      660

AGAAGATGGT ATAATACTAA ATTGTAAGGG TTATCACATA TAACTCAAAA AAAGAAAGAA      720

CAAAAGGAGA GTCAAACTAT GGCTTCTAAA GATTCCACG TAGTGGCAGA AACAGGTATT      780

CACGCACGTC CAGCAACATT GTTGGTACAA ACTGCTAGCA AATTTGCTTC AGATATCACT      840

CTTGAGTACA AAGGTAAATC AGTTAACCTT AAATCAATTA TGGGTGTTAT GAGTCTTGGT      900

GTTGGCCAAG GTGCTGACGT AACTATCTCA GCTGAAGGTG CAGATGCAGA TGACGCTATC      960

GCTGCAATCT CAGAAACAAT GGAAAAAGAA GGATTGGCAT AAGGGAAATG ACAGAAATGC     1020

TTAAAGGAAT CGCAGCATCT GACGGTGTTG CAGTTGCAAA AGCATATCTA CTCGTTCAGC     1080

CGGATTTGTC ATTTGAGACT ATTACAGTCG AAGATACAAA CGCAGAAGAA GCTCGCCTTG     1140

ATGCCGCTCT ACAGGCATCA CAAGACGAGC TTTCTGTTAT TCGCGAGAAA GCAGTAGGTA     1200

CGCTCGGTGA AGAAGCAGCT CAAGTTTTTG ATGCTCACTT AATGGTTCTT GCTGACCCAG     1260

AAATGATCAG CCAAATCAAG GAAACTATCC GTGCGAAGAA AGTGAATGCA GAAGCAGGTC     1320

TGAAAGAAGT TACAGATATG TTTATCACTA TCTTTGAAGG CATGGAAGAC AACCCATACA     1380

TGCAAGAACG CGCAGcGGAT wTCCGCGACG TGACAAAACG TGTATTGGCA AACCTTCTTG     1440

GTAAAAAATT GCCAAACCCA GCTTCTATCA ATGAAGAAGT GATTGTGATT GCGCATGACT     1500

TGACTCCTTC AGATACAGCT CAATTGGACA AAAACTTTGT AAAAGCTTTT GTAACCAACA     1560

TTGGTGGACG TACAAGCCAC TCAGCTATCA TGGCACGTAC ACTTGAAATT GCTGCTGTAT     1620

TAGGTACAAA TAACATCACT GAAATCGTTA AAGACGGTGA CATCCTTGCT GTTAACGGGA     1680

TCACTGGAGA AGTGATTATC AACCCAACAG ATGAACAAGC GGCAGAATTT AAAGCAGCTG     1740

GTGAAGCCTA TGCGAAACAA AAAGCTGAAT GGGCACTTTT GAAAGATGCT CAAACAGTGA     1800

CTGCTGACGG TAAACACTTC GAGTTGGCTG CTAATATCGG TACTCCAAAA GACGTTGAAG     1860

GTGTTAACAA CAACGGTGCA GAAGCTGTTG GACTTTACCG TACAGAGTTC TTGTACATGG     1920

ATTCTCAAGA CTTCCCAACT GAAGATGAGC AGTATGAAGC ATACAAGGCT GTTCTTGAAG     1980

GAATGAACGG TAAACCTGTT GTCGTTCGTA CAATGGATAT CGGTGGAGAT AAGGAACTTC     2040

CTTACTTCGA TATGCCTCAC GAAATGAACC CATTCCTTGG ATTCCGTGCT CTTCGTATCT     2100

CTATCTCTGA GACTGGAGAT GCTATGTTCC GCACACAAAT CCGTGCTCTT CTTCGTGCGT     2160
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729

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CTGTTCACGG TCAATTGCGT ATCATGTTCC CAATGGTTGC GCTCTTGAAA GAATTCCGTG    2220

CAGCGAAAGC AGTCTTTGAT GAAGAAAAAG CAAACCTTCT TGCTGAAGGT GTTGCAGTTG    2280

CGGATAACAT CCAAGTTGGT ATCATGATCG AGATTCCTGC AGCGGCTATG CTTGCAGACC    2340

AATTTGCTAA AGAAGTTGAC TTCTTCTCAA TTGGTACAAA CGACTTGATC CAATATACAA    2400

TGGCAGCAGA CCGTATGAAC GAACAAGTTT CATACCTTTA CCAACCATAC AACCCATCAA    2460

TCCTACGCTT GATTAACAAT GTGATCAAAG CAGCTCACGC TGAAGGTAAA TGGGCTGGTA    2520

TGTGTGGTGA GATGGCTGGT GACCAACAAG CTGTTCCACT TCTTGTCGGA ATGGGCTTGG    2580

ATGAGTTCTC TATGTCAGCA ACATCTGTAC TTCGTACACG CAGCTTGATG AAGAAACTCG    2640

ACACAGCTAA GATGGAAGAG TACGCAAACC GTGCCCTTAC AGAATGCTCA ACAATGGAAG    2700

AAGTTCTTGA ACTTCAAAAA GAATACGTTA ATTTTGATTA ATCGAAAAGT CCCTGCAACT    2760

CAGTTACAGG GATTTTTTTG ATATTTTAAA AAGAATTTTC AAGAAAATCT TTCTTATAGA    2820

AAGTCCAACC TTGAAAAAGT AGTGGTCAGA ACAAAAAATA CTTAAATGGT TCATAAAATT    2880

CTTGACAAGT TGGATATTTA GGAGTAAACT ATTAACCAGT TAAGTAATAG AGAGGAGTTT    2940

CTGCAATTTA GAAATGAATT GCAACTAGAA ATATCAAATA GAAAGAGAGT TTCGATGAAA    3000

ATTAATAAGA AATACCTTGT TGGTTCTGCG GCACTTTGAT TTTAAGTGTT TGTTCTTACG    3060

AGTTGGGACT GTATCAAGCT AGAACGGTTA AGGAAAATAA TCGTGTTTCC TATATAGATG    3120

GAAAACAAGC GACGCAAAAA ACGGAGAATT TGACTCCTGA TGAGGTTAGC AAGCGTGAAG    3180

GAATCAATGC TGAGCAAATC GTCATCAAGA TAACAGACCA AGGCTATGTC ACTTCACATG    3240

GCGACCACTA TCATTATTAC AATGGTAAGG TTCCTTATGA CGCTATCATC AGTGAAGAAT    3300

TACTCATGAA AGATCCAAAC TATAAGCTAA AAGATGAGGA TATTGTTAAT GAGGTCAAGG    3360

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GTGAAGGTGG AACTCCAAGA AACGATGGTG CTGTTGCCTT GGCACGTTCG CAAGGACGCT    3540

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CTTATATCGT TCCTCATGGA GATCATTACC ATTACATTCC TAAGAATGAG TTATCAGCTA    3660

GCGAGTTGGC TGCTGCAGAA GCCTTCCTAT CTGGTCGAGG AAATCTGTCA AATTCAAGAA    3720

CCTATCGCCG ACAAAATAGC GATAACACTT CAAGAACAAA CTGGGTACCT TCTGTAAGCA    3780

ATCCAGGAAC TACAAATACT AACACAAGCA ACAACAGCAA CACTAACAGT CAAGCAAGTC    3840

AAAGTAATGA CATTGATAGT CTCTTGAAAC AGCTCTACAA ACTGCCTTTG AGTCAACGAC    3900
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                                      730
ATGTAGAATC TGATGGCCTT GTCTTTGATC CAGCACAAAT CACAAGTCGA ACAGCTAGAG    3960

GTGTTGCAGT GCCACACGGA GATCATTACC ACTTCATCCC TTACTCTCAA ATGTCTGAAT    4020

TGGAAGAACG AATCGCTCGT ATTATTCCCC TTCGTTATCG TTCAAACCAT TGGGTACCAG    4080

ATTCAAGGCC AGAACAACCA AGTCCACAAC CGACTCCGGA ACCTAGTCCA GGCCCGCAAC    4140

CTGCACCAAA TCTTAAAATA GACTCAAATT CTTCTTTGGT TAGTCAGCTG GTACGAAAAG    4200

TTGGGGAAGG ATATGTATTC GAAGAAAAGG GCATCTCTCG TTATGTCTTT GCGAAAGATT    4260

TACCATCTGA AACTGTTAAA AATCTTGAAA GCAAGTTATC AAAACAAGAG AGTGTTTCAC    4320

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CATATAATCT GTTAACTGAG GCTCATAAAG CCTTGTTTGA AAATAAGGGT CGTAATTCTG    4440

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AATTGGTAGA TGATTTATTG GCATTCCTAG CACCAATTAC CCATCCAGAG CGACTTGGCA    4560

AACCAAATTC TCAAATTGAG TATACTGAAG ACGAAGTTCG TATTGCTCAA TTAGCTGATA    4620

AGTATACAAC GTCAGATGGT TACATTTTTG ATGAACATGA TATAATCAGT GATGAAGGAG    4680

ATGCATATGT AACGCCTCAT ATGGGCCATA GTCACTGGAT TGGAAAAGAT AGCCTTTCTG    4740

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TGAAAGGGGA AAAACGAATT CCACTCGTTC GACTTCCATA TATGGTTGAG CATACAGTTG    4920

AGGTTAAAAA CGGTAATTTG ATTATTCCTC ATAAGGATCA TTACCATAAT ATTAAATTTG    4980

CTTGGTTTGA TGATCACACA TACAAAGCTC CAAATGGCTA TACCTTGGAA GATTTGTTTG    5040

CGACGATTAA GTACTACGTA GAACACCCTG ACGAACGTCC ACATTCTAAT GATGGATGGG    5100

GCAATGCCAG TGAGCATGTG TTAGGCAAGA AAGACCACAG TGAAGATCCA AATAAGAACT    5160

TCAAAGCGGA TGAAGAGCCA GTAGAGGAAA CACCTGCTGA GCCAGAAGTC CCTCAAGTAG    5220

AGACTGAAAA AGTAGAAGCC CAACTCAAAG AAGCAGAAGT TTTGCTTGCG AAAGTAACGG    5280

ATTCTAGTCT GAAAGCCAAT GCAACAGAAA CTCTAGCTGG TTTACGAAAT AATTTGACTC    5340

TTCAAATTAT GGATAACAAT AGTATCATGG CAGAAGCAGA AAAATTACTT GCGTTGTTAA    5400

AAGGAAGTAA TCCTTCATCT GTAAGTAAGG AAAAAATAAA CTAATGAAAA ATGAAAGTCT    5460

CGATAAAGAG GCTTTCATTT TTATTATGTA TATATGTAAA ATTCTTGACA AGCAATATTA    5520

AAAAGAGTAA ACTATTAACT AGTTAATTAA CCGGTTTATT ACTTTATAGT GAATCAAATA    5580

TACTTAAGAA AAGAGGAAAG AATGAAAATT AATAAAAAAT ATCTAGCAGG TTCAGTGGCA    5640

GTCCTTGCCC TAAGTGTTTG TTCCTATGAA CTTGGTCGTC ACCAAGCTGG TCAGGTTAAG    5700
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731

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AAAGAGTCTA ATCGAGTTkC TTATATAGAT GGTGATCAGG CTGGTCAAAA GGCAGAAAAC    5760

TTGACACCAG ATGAAGTCAG TAAGAGGGAG GGGATCAACG CCGAACAAAT CGTCATCAAG    5820

ATTACGGATC AAGGTTATGT GACCTCTCAT GGAGACCATT ATCATTACTA TAATGGCAAG    5880

GTCCCTTATG ATGCCATCAT CAGTGAAGAG CTCCTCATGA AAGATCCGAA TTATCAGTTG    5940

AAGGATTCAG ACATTGTCAA TGAAATCAAG GGTGGTTATG TTATCAAGGT AGATGGAAAA    6000

TACTATGTTT ACCTTAAGGA TGCAGCTCAT GCGGATAATA TTCGGACAAA AGAAGAGATT    6060

AAACGTCAGA AGCAGGAACA CAGTCATAAT CACGGGGGTG GTTCTAACGA TCAAGCAGTA    6120

GTTGCAGCCA GAGCCCAAGG ACGCTATACA ACGGATGATG GTTATATCTT CAATGCATCT    6180

GATATCATTG AGGACACGGG TGATGCTTAT ATCGTTCCTC ACGGCGACCA TTACCATTAC    6240

ATTCCTAAGA ATGAGTTATC AGCTAGCGAG TTAGCTGCTG CAGAAGCCTA TTGGAATGGG    6300

AAGCAGGGAT CTCGTCCTTC TTCAAGTTCT AGTTATAATG CAAATCCAGC TCAACCAAGA    6360

TTGTCAGAGA ACCACAATCT GACTGTCACT CCAACTTATC ATCAAAATCA AGGGGAAAAC    6420

ATTTCAAGCC TTTTACGTGA ATTGTATGCT AAACCCTTAT CAGAACGCCA TGTGGAATCT    6480

GATGGCCTTA TTTTCGACCC AGCGCAAATC ACAAGTCGAA CCGCCAGAGG TGTAGCTGTC    6540

CCTCATGGTA ACCATTACCA CTTTATCCCT TATGAACAAA TGTCTGAATT GGAAAAACGA    6600

ATTGCTCGTA TTATTCCCCT TCGTTATCGT TCAAACCATT GGGTACCAGA TTCAAGACCA    6660

GAACAACCAA GTCCACAATC GACTCCGGAA CCTAGTCCAA GTCCGCAACC TGCACCAAAT    6720

CCTCAACCAG CTCCAAGCAA TCCAATTGAT GAGAAATTGG TCAAAGAAGC TGTTCGAAAA    6780

GTAGGCGATG GTTATGTCTT TGAGGAGAAT GGAGTTTCTC GTTATATCCC AGCCAAGGAT    6840

CTTTCAGCAG AAACAGCAGC AGGCATTGAT AGCAAACTGG CCAAGCAGGA AAGTTTATCT    6900

CATAAGCTAG GAGCTAAGAA AACTGACCTC CCATCTAGTG ATCGAGAATT TTACAATAAG    6960

GCTTATGACT TACTAGCAAG AATTCACCAA GATTTACTTG ATAATAAAGG TCGACAAGTT    7020

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AAGTTAGTGG ATGATATTCT TGCCTTCTTA GCTCCGATTC GTCATCCAGA ACGTTTAGGA    7140

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AAGTACACAA CAGAAGACGG TTATATCTTT GATCCTCGTG ATATAACCAG TGATGAGGGG    7260

GATGCCTATG TAACTCCACA TATGACCCAT AGCCACTGGA TTAAAAAAGA TAGTTTGTCT    7320

GAAGCTGAGA GAGCGGCAGC CCAGGCTTAT GCTAAAGAGA AAGGTTTGAC CCCTCCTTCG    7380

ACAGACCATC AGGATTCAGG AAATACTGAG GCAAAAGGAG CAGAAGCTAT CTACAACCGC    7440
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732

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GTGAAAGCAG CTAAGAAGGT GCCACTTGAT CGTATGCCTT ACAATCTTCA ATATACTGTA    7500

GAAGTCAAAA ACGGTAGTTT AATCATACCT CATTATGACC ATTACCATAA CATCAAATTT    7560

GAGTGGTTTG ACGAAGGCCT TTATGAGGCA CCTAAGGGGT ATACTCTTGA GGATCTTTTG    7620

GCGACTGTCA AGTACTATGT CGAACATCCA AACGAACGTC CGCATTCAGA TAATGGTTTT    7680

GGTAACGCTA GCGACCATGT TCGTAAAAAT AAGGTAGACC AAGACAGTAA ACCTGATGAA    7740

GATAAGGAAC ATGATGAAGT AAGTGAGCCA ACTCACCCTG AATCTGATGA AAAAGAGAAT    7800

CACGCTGGTT TAAATCCTTC AGCAGATAAT CTTTATAAAC CAAGCACTGA TACGGAAGAG    7860

ACAGAGGAAG AAGCTGAAGA TACCACAGAT GAGGCTGAAA TTCCTCAAGT AGAGAATTCT    7920

GTTATTAACG CTAAGATAGC AGATGCGGAG GCCTTGCTAG AAAAAGTAAC AGATCCTAGT    7980

ATTAGACAAA ATGCTATGGA GACATTGACT GGTCTAAAAA GTAGTCTTCT TCTCGGAACG    8040

AAAGATAATA ACACTATTTC AGCAGAAGTA GATAGTCTCT TGGCTTTGTT AAAAGAAAGT    8100

CAACCGGCTC CTATACAGTA GTAAAATGAA TGGAGCATAT TTTATGGAGA AGTAACCTTT    8160

CGTGTTACTT CTCTTTTTTA GAAAAACGTA ACAGA                               8195
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(2) INFORMATION FOR SEQ ID NO: 95:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2004 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

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TTTACTAAAA GGAAAAAAGA ACTGATTTCT CAGTCCTTCA TTAATCTTAT TCCACACTAA     60

ATAGGTATGG GTAAACAGGT TGTTGACCTT GGTGAATCTC GACTTCAACG TCTTCGAATT    120

CTTCTACGAT TTCTTGAGCG ATTTCATTGG CAAGTTCTTC GCTTCCGTCT TCACCTACAT    180

AGAAGGTTAC GATTTCACTG TCTTCATCCA ACATATGTTT CAAGGTTTCA GTCAATGTTT    240

GGTGCATATC AGGGTTTGAC ACAAGAATTT TTCCATCCAC CATACCTAAA TTATCGTTTT    300

CATGGATTTC TAAGCCATCG ATCGTTGTAT CACGCACGGC TGTTGTGACG CTTCCGCTAA    360

CGACATCGCT AAGAGCAGCT GTCATACGCT CTTGGTTTTC TTCAATGGAC TTGCTTGGAT    420

CAAAGGCAAG AAGACTTGTC ATACCTTGAG GAAGAGTGCG AGCCTCTACC ACTACCGCTG    480

GTTGCTCCAA AACTTCTGCC GCAGATTGAG CTGCCATGAA GATGTTCTTG TTGTTTGGCA    540

AGAAGATGAT GTTACGGGCA TTAACCTGTT CAACAGCCTT GATAAAGTCT TCTGTTGAAG    600

GGTTCATGGT TTGACCGCCT TCGATAACAT AATCCACGCC TTGAGAACAG AAGATATCTG    660
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733

CTAGACCTTT ACCAGCCACC ACAGCAATCA AAGCATACTC TTTTTCTTCA GCCGACTTGA   720

TAACTTGAGT AGCTTCTTTC TCAACCTGTG CTTCGTGTTG GTTACGCATA TTGTCAACTT   780

TTACCTTGAC CAAGCTACCA TATTTGAGAC CTTCTTGCAT AACAAGTCCT GGATCTTCTG   840

TATGAACATG GACTTTGACA ATTTCATCAT CGTTAACAAC AAGGAGAGAA TCTCCAAGCT   900

CATCCAAGTA GTTACGGAAT TCATCGTAGT CAAAATCTTT AGCATAGGTT GGACCTTGCT   960

TAAGAGCTAC CATGATTTCA GTACAGTAAC CAAACGTGAT GTCCTCAGTC GCTACGTGAC   1020

CAGCTACAGA CTTATGATGC TCTACATTGA TCATCTCACT CATGTTGGCA GGAGTCGCTA   1080

CAAAGTCCTC AGATGCAATA TATTCGCCAG TAAGGGCTGA AAGGAAACCT TCGTAGATGA   1140

AGACCAATCC TTGACCACCT GAGTCCACAA CGCCAACTTC TTTCAATACT GGAAGCATGT   1200

CTGGTGTTTT AGCTAGAGCT GTTTTAGCAC CTTCCAAGGC TGCGCGCATG ACTTCAACAG   1260

CGTCATCTGT TTGCTCAGCT TTTTTCTTAG CACCGATAGC AGCTCCACGA GAAACTGTTA   1320

AAATCGTTCC TTCAACAGGT TTCATCACTG CCTTATAGGC AACTTCCACA CCTGATTGGA   1380

AGGCCAGAGC CAAGTCTTGA CCTGTTAACT CGTCTTTATC CTTGATAGCT TGGGAAAATC   1440

CACGGAAAAG CTGAGACGTA ATCACTCCTG AGTTCCCACG CGCACCCATC AAAAGCCCTT   1500

TGGCAAGAAT GCTCGCTACT TCTCCAACTG TAGAAGCTGG CTTGTCTGCA ACTTCTTTAG   1560

CACCATTTTC AATGGTCATT CCCATATTTG TCCCAGTATC TCCATCTGGA ACTGGAAAGA   1620

CGTTTAATGA ATTGACATAT TCAGCTTGCT TATTCAAGCG AGTTGATGCA GCCTGCACCA   1680

TTTCTTGAAA TAAGCTAGTA GTAATTTTTG ACACGGTTAT TCTCCTACAA CTTTGATATT   1740

TTGAATGTAG ACATTTACAG TCTGAGCAGT AATTCCAAGC TGGTTTTCCA AGCTAAAGGC   1800

AACACGCTCT TGAATGTTTT TTGACACTTC ACTAATCTTT GTTCCGTAGC TTAACACGGT   1860

ATATACATCA ACTGCAATAC TGCCATCTTC GGCTGCCTTT ACGACGACAC CTTTAGAATA   1920

ATTTTCCTTA CCTAGCAGGG CTTGGAAATT ATCTTTGAGG GCATTTTTAC TAGCCATACC   1980

GACCACACCA GAAATCTCAG TTGC   2004

(2) INFORMATION FOR SEQ ID NO: 96:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11915 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

734

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CCGGGTTGGG CTGTTCGCCC ATTAAAGCGG CACCACAGCT GGGTTCAGAA CGTCGTGAGA        60

CAGTTCGGTC CCTATCCGTC GCGGGCGTAG GAAATTTGAG AGGATCTGCT CCTAGTACGA       120

GAGGACCAGA GTGGACTTAC CGCTGGTGTA CCAGTTGTCT TGCCAAAGGC ATCGCTGGGT       180

AGCTATGTAG GGAAGGGATA AACGCTGAAA GCATCTAAGT GTGAAACCCA CCTCAAGATG       240

AGATTTCCCA TGATTATATA TCAGTAAGAG CCCTGAGAGA TGATCAGGTA GATAGGTTAG       300

AAGTGGAAGT GTGGCGACAC ATGTAGCGGA CTAATACTAA TAGCTCGAGG ACTTATCCAA       360

AGTAACTGAG AATATGAAAG CGAACGGTTT TCTTAAATTG AATAGATATT CAATTTTGAG       420

TAGGTATTAC TCAGAGTTAA GTGACGATAG CCTAGGAGAT ACACCTGTAC CCATGCCGAA       480

CACAGAAGTT AAGCCCTAGA ACGCCGGAAG TAGTTGGGGG TTGCCCCCTG TGAGATAGGG       540

AAGTCGCTTA GCTCTAGGGA GTTTAGCTCA GCTGGGAGAG CATCTGCCTT ACAAGCAGAG       600

GGTCAGCGGT TCGATCCCGT TAACTCCCAT TTTAGCGGGT GTAGTTTAGT GGTAAAACTA       660

CAGCCTTCCA AGCTGTTGTC GCGAGTTCGA TTCTCGTCAC CCGCTTTGAA CTTTGTTCTT       720

TGTACCAAGT TTTTGACTTG GGCGCGTAGC TCAGGTGGTT AGAGCGCACG CCTGATAAGC       780

GTGAGGTCGG TGGTTCGAGT CCACTCGTGC CCATAGTGTT TAGTCCATTA CTAGGGGATT       840

GGAATATTAT CTGTTCACTA AGAGGACACG GGCTTGTTCC CGTATAAACT ATTTTGGAGG       900

ATTACCCAAG TCCGGCTGAA GGGAACGGTC TTGAAAACCG TCAGGCGTGT AAAAGCGTGC       960

GTGGGTTCGA ATCCCACATC CTCCTTTTAT ATTAACGCGG GATGGAGCAG CTCGGTAGCT      1020

CGTCGGGCTC ATAACCCGAA GGTCGTAGGT TCAAATCCTG CTCCCGCAAT AAGGCTCGGT      1080

AGCTCAGTTG GTAGAGCAAT GGATTGAAGC TCCATGTGTC GGCGGTTCGA TTCCGTCTCG      1140

CGCCATTTAT ATATTTTGGA AGGGTAGCGA AGAGGCTAAA CGCGGCGGAC TGTAAATCCG      1200

CTCCTTCGGG TTCGGGGGTT CGAATCCCTC CCCTTCCATT TTACGGGCAT AGTTTAAAGG      1260

TAGAACTAAG GTCTCCAAAA CCTTCAGTGT GGGTTCAATT CCTACTGCCC GTGTTAATAG      1320

AATTATGGCG GGTGTGGTGA AGTGGTTAAC ACACCAGATT GTGGCTCTGG CATGCGTGGG      1380

TTCGATCCCC ATCACTCGCC TATTTTATAT TGGGGTATAG CCAAGCGGTA AGGCAAGGGA      1440

CTTTGACTCC CTCATGCGTT GGTTCGAATC CAGCTACCCC AGTTACTATT TGCCGGCGTG      1500

GCGGAATTGG CAGACGCGCT GGACTCAAAA TCCAGTGTCC GCAAGGACGT GCCGGTTCGA      1560

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TTATTTTTGG TATAATTATA GTTATTCAAA TTTTATTTAG ATTAAGAAAG TGTAGGGGAG      1680

TATGTCTTGT TCTATCGATT TATTAAAACA TCGGTATTTG AAAAATATTA AAGAAAATCC      1740

TGAATTGTTT GTCGGAATTG AGTTGGAGTA TCCTGTTGCA AGTTTAGAAG GGGATGCTAC      1800
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735

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AGATGTTGAA GTTATGAAGG ATCTATTTCA TTATTTAGTT TCTACTTTGG ATCTCACCGT      1860

AGCAAAGGTA GATGATTTTG GCAATCTGAT CCAGTTAGTA GATCCGATAA GTCAGGATGC      1920

TATTTTATTT GAAGTTTCCT ATACAACGAT TGAGTTTGCA TTTGGTAAGG CTGAAACGAT      1980

TCAAGAGGTC GAAAATCGTT TCAATAATTA TATGAATGTA ATTCAGAGAA AGTTAGCTGA      2040

ATCAAATCAT GCTATTGTTG GCTGTGGTAT CCATCCCAAC TGGGATAAAA ATGAGAATTG      2100

TCCAGTGGCT TATCCACGCT ATCAGATGTT GATGGATTAT TTGAATTTGA GTAGAAATAT      2160

TATTAAATCA GATTTACATC ATTTCCCTGA ATATGGTACT TTTATCTGTG GGAGCCAGGT      2220

TCAGCTGGAT ATTTCAAAAA CCAACTACTT ACGGGTGATT AATGCTTTTA CTCAAATTGA      2280

AGCGGCTAAG GCTTATTTAT TTGCAAACTC TGAATTTTCG GGTGCGGATT GGGATACGAA      2340

AATTTCAAGG GATATTTTCT GGGAAGAATC TATGCATGGT ATCTATCCAG AGAATGTTGG      2400

GGTCAATGCT AGACTCCTTA ATGATGAAAC TGATTTTTTT GACTATCTAA ATCATTCTGC      2460

GATTTTTACT GCGGAACGTG ATGGGCAGAC CTATTATTTT TATCCTATTC AGGCTGGGGA      2520

CTATTTGGCT ACGTCCGAAA TCCAAGCATT TGCTCTGAAT GGGGATGAGG TTATTATTTA      2580

CCCCCAAGAG AAGGATTTTG AAACTCATCG TAGTTACCAG TACCAAGATT TAACGACTCG      2640

AGGAACAGTT GAGTTTCGTA GTGTGTGTAC ACAGCCACTT GATAGGACTT TTGCTTCTGC      2700

AGCTTTTCAC TTGGGATTAT TGGTTAATTT AGACAAGTTA GAAGCTTACT TAGAAACAGC      2760

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AGAAGAATTG AGCCTATAAT TTCTCTTATA AAGGGAGAAT TTTCTGAAAA ATCATGATAT      3000

AATGGACGAG ACTATAGATA AAGGATAGAG AGTAATGACA TTAGTTTATC AATCAACGCG      3060

TGATGCCAAC AATACAGTAA CTGCCAGCCA AGCAATTTTG CAAGGTTTGG CGACGGACGG      3120

CGGTTTGTTT ACACCGGATA CTTATCCAAA GGTAGATTTG AACTTTGACA AATTGAAAGA      3180

TGCTTCTTAC CAGGAAGTTG CTAAGCTAGT TTTGTCAGCA TTTTTAGATG ACTTTACAGT      3240

TGAGGAGTTG GACTACTGTA TCAACAATGC CTACGATAGC AAATTTGATA CTCCAGCTAT      3300

TGCACCATTA GTGAAATTAG ATGGGCAATA CAATTTGGAA CTTTTCCATG GTTCAACGAT      3360

TGCCTTTAAG GATATGGCCT TGTCTATTTT GCCATACTTT ATGACGACTG CTGCTAAGAA      3420

ACATGGTTTG GAGAACAAGA TTGTTATCTT GACAGCGACA TCTGGTGACA CGGGGAAAGC      3480

TGCTATGGCG GGGTTTGCGA ATGTGCCTGG TACTGAGATT ATCGTCTTTT ATCCAAAGGA      3540
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736

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TGGTGTCAGC AAGATTCAAG AGTTACAAAT GACCACTCAG ACTGGCGACA ATACTCATGT      3600

TATTGCTATT GATGGTAACT TTGACGATGC GCAAACAAAT GTGAAGCACA TGTTTAACGA      3660

CGTGGCTCTT CGTGAAAAAT TGACTACCAA CAAGTTGCAA TTTTCATCAG CTAACTCTAT      3720

GAACATTGGT CGTCTGGTGC CACAAATTGT TTATTATGTT TATGCTTACG CTCAATTGGT      3780

TAAGACTGGT GAAATTGTAG CTGGTGAAAA GGTTAACTTC ACAGTACCAA CAGGAAACTT      3840

TGGAAATATC TTGGCTGCCT TTTATGCCAA ACAAATTGGT TTGCCAGTTG GTAAATTAAT      3900

CTGTGCTTCA AATGACAACA ATGTTTTGAC AGACTTCTTT AAAACACGTG TCTATGACAA      3960

AAAACGTGAG TTTAAGGTAA CAACCAGCCC ATCTATGGAT ATCTTGGTAT CTTCAAACTT      4020

GGAGCGCTTG ATTTTCCATC TTTTGGGAAA TAATGCTGAA AAGACAACTG AACTTATGAA      4080

TGCCTTGAAC ACGCAAGGAC AATATAAGTT GACAGACTTT GATGCAGAGA TTTTGGACCT      4140

CTTTGCAGCT GAATATGCGA CTGAGGAAGA AACGGCAGCA GAGATCAAGC GTGTTTGTGA      4200

GTTAGATTCT TATATCGAGG ACCCTCATAC AGCTGTTGCT TCAGCAGTTT ATAAAAAATA      4260

CCAATCGGCC ACTGGAGATG TAACTAAGAC AGTGATTGCT TCAACAGCTA GTCCATACAA      4320

GTTCCCAGTA GTTGCAGTAG AAGCTGTAAC TGGAAAAGCA GGTTTAACAG ACTTTGAAGC      4380

CTTGGCTCAA TTACATGAAA TCTCAGGCGT TGCAGTGCCA CCAGCAGTTG ATGGGCTTGA      4440

AATAGCTCCA ATTCGTCACA AGACAACAGT GGCAGCTGCT GACATGCAAG CAGCGGTTGA      4500

GGCTTATTTA GGACTTTAAG ACAGAGGGAG CAAACTCGGT TGGGAAACCA ACTGAGTTTC      4560

TTTTCATCAG GAGGAGAGAT TGTTTAAGAA AAATAAAGAC ATTCTTAATA TTGCATTGCC      4620

AGCTATGGGT GAAAACTTTT TGCAGATGCT AATGGGAATG GTGGACAGTT ATTTGGTTGC      4680

TCATTTAGGA TTGATAGCTA TTTCAGGGGT TTCAGTAGCT GGTAATATTA TCACCATTTA      4740

TCAGGCGATT TTCATCGCTC TGGGAGCTGC TATTTCCAGT GTTATTTCAA AAAGCATAGG      4800

GCAGAAAGAC CAGTCGAAGT TGGCCTATCA TGTGACTGAG GCGTTGAAGA TTACCTTACT      4860

ATTAAGTTTC CTTTTAGGAT TTTTGTCCAT CTTCGCTGGG AAAGAGATGA TAGGACTTTT      4920

GGGGACGGAG AGGGATGTAG CTGAGAGTGG TGGACTGTAT CTATCTTTGG TAGGCGGATC      4980

GATTGTTCTC TTAGGTTTAA TGACTAGTCT AGGAGCCTTG ATTCGTGCAA CGCATAATCC      5040

ACGTCTGCCT CTCTATGTTA GTTTTTTATC CAATGCCTTG AATATTCTTT TTTCAAGTCT      5100

AGCTATTTTT GTTCTGGATA TGGGGATAGC TGGTGTTGCT TGGGGGACAA TTGTGTCTCG      5160

TTTGGTTGGT CTTGTGATTT TGTGGTCACA ATTAAAACTG CCTTATGGGA AGCCAACTTT      5220

TGGTTTAGAT AAGGAACTGT TGACCTTGGC TTTACCAGCA GCTGGAGAGC GACTTATGAT      5280

GAGGGCTGGA GATGTAGTGA TCATTGCCTT GGTCGTTTCT TTTGGGACGG AGGCAGTTGC      5340
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737

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TGGGAATGCA ATCGGAGAAG TCTTGACCCA GTTTAACTAT ATGCCTGCCT TTGGCGTCGC    5400

TACGGCAACG GTCATGCTGT TGGCCCGAGC AGTTGGAGAG GATGATTGGA AAAGAGTTGC    5460

TAGTTTGAGT AAACAAACCT TTTGGCTTTC TCTGTTCCTC ATGTTGCCCC TGTCCTTTAG    5520

TATATATGTC TTGGGTGTAC CATTAACTCA TCTCTATACG ACTGATTCTC TAGCGGTGGA    5580

GGCTAGTGTT CTAGTGACAC TGTTTTCACT ACTTGGGACC CCTATGACGA CAGGAACAGT    5640

CATCTATACG GCAGTCTGGC AGGGATTAGG AAATGCACGC CTCCCTTTTT ATGCGACAAG    5700

TATAGGAATG TGGTGTATCC GCATTGGGAC AGGATATCTG ATGGGGATTG TGCTTGGTTG    5760

GGGCTTGCCT GGTATTTGGG CAGGGTCTCT CTTGGATAAT GGTTTTCGCT GGTTATTTCT    5820

ACGCTATCGT TACCAGCGCT ATATGAGCTT GAAAGGATAG GAAATGCAAA AAACAGCTTT    5880

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GGAGACTTTT GCTCAGTTTT CTATTCCTTA TGATAAGGAG AAGGTGAGAG AGTTTATCTT    6000

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GGTGCTAAAT CAGGTGCGTG CCCAGAGTCT GGCTGAGAAG AATGCTCAGG TAGTTTTGAT    6120

GCCAGGTGCG CGTGAGGTGC TAGCTTGGGC AGACGAATCA GGAATTCAGC AGTTTATATA    6180

TACTCATAAG GGGAACAACG CTTTTACCAT TCTCAAGGAC TTGGGGGTGG AATCCTATTT    6240

TACAGAGATT TTAACCAGTC AGAGTGGCTT TGTGCGGAAG CCAAGTCCAG AAGCGGCTAC    6300

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TCTGGATGTG GAATTTGCCC AGAATAGTGG GATTCAAAGC ATCAACTTTT TAGAGTCTAC    6420

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AGAAGTTCTT TGGACTGCAC GTAGTGTTGA GCAAATCCAA AACGATTTGA CTAAAACGGA    6780

CAACAAAACA AGTTATACCG TACAGTATGG TGATACTTTG AGCACCATTG CAGAAGCCTT    6840

GGGTGTAGAT GTCACAGTGC TTGCGAATCT GAACAAAATC ACTAATATGG ACTTGATTTT    6900

CCCAGAAACT GTTTTGACAA CGACTGTCAA TGAAGCAGAA GAAGTAACAG AAGTTGAAAT    6960

CCAAACACCT CAAGCAGACT CTAGTGAAGA AGTGACAACT GCGACAGCAG ATTTGACCAC    7020

TAATCAAGTG ACCGTTGATG ATCAAACTGT TCAGGTTGCA GACCTTTCTC AACCAATTGC    7080
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738

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AGAAGTTACA AAGACAGTGA TTGCTTCTGA AGAAGTGGCA CCATCTACGG GCACTTCTGT   7140

CCCAGAGGAG CAAACGACCG AAACAACTCG CCCAGTTGAA GAAGCAACTC CTCAGGAAAC   7200

GACTCCAGCT GAGAAGCAGG AAACACAAGC AAGCCCTCAA GCTGCATCAG CAGTGGAAGT   7260

AACTACAACA AGTTCAGAAG CAAAAGAAGT AGCATCATCA AATGGAGCTA CAGCAGCAGT   7320

TTCTACTTAT CAACCAGAAG AGACGAAAAT AATTTCAACA ACTTACGAGG CTCCAGCTGC   7380

GCCCGATTAT GCTGGACTTG CAGTAGCAAA ATCTGAAAAT GCAGGTCTTC AACCACAAAC   7440

AGCTGCCTTT AAAGAAGAAA TTGCTAACTT GTTTGGCATT ACATCCTTTA GTGGTTATCG   7500

TCCAGGAGAC AGTGGAGATC ACGGAAAAGG TTTGGCTATC GACTTTATGG TACCAGAACG   7560

TTCAGAATTA GGGGATAAGA TTGCGGAATA TGCTATTCAA AATATGGCCA GCCGTGGCAT   7620

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TAACACTTGG AACCCAATGC CAGACCGTGG TAGTGTGACA GAAAATCACT ATGATCACGT   7740

TCACGTTTCA ATGAATGGAT AAACCCGACT TGATAACATC ATTTTGACGA ATGAGATCTA   7800

GCTTTCGTGA TGGAAAGCGA TTCTCGTTCG TTTTTTCTTT GTCATACTCT TCGAAAATCT   7860

CTTCAAACCA CGTCAGTTTT ATCTGAAACT TCAAAGCTGT GCTTTGAGCA ACCTGCGACT   7920

AGCTTCCTAG TTTGCTTTTT GATTTTCATT GAGTATCAAT TTGAATGGAA AATGGAAAGT   7980

TATCATCTTG TAATGAGTTA AGCAACATTC TTGCAATCTA TTTTACTTTA TATCACAATT   8040

AATTAGTCAA ATATTGATAA ATCAATAAAA AGAGAGGGGA AGAAATGCTA GAGATTCAAG   8100

ATTTACTGTA TCAACTCCGC TTGTCTGAGC AAGCGAGTAC GCAATTGTTT GAAAAAAGGC   8160

TTGGGATTAG TTTGACACGG TATCAGATTT TACTGTTTTT GCTGGAGCAT TCTCCTTGTA   8220

ACCAAATGGC GGTTCAGGAG CGTTTGAAAA TTGATCAGGC TGCTTTGACA CGGCATTTCA   8280

AAATTTTGGA AACGGAAGGT TTGGTGGAGC GTCATCGTAA TCCTGAAAAT CAGCGGGAAG   8340

TGTTGGTAGA GGCTGCGAAG TATGCCAAGG AGCAGTTAGT GGTGAATCCC CCTCTGCAAC   8400

ATATCAGGGT TAAGGAAGAG ATAGAAAGTA TCTTAACAGA GTTTGAGAGA ACAGAACTCA   8460

GCCGTTTATT AAATAAATTG GTTTTGGGTA TTGAAAATAT AGAAATTTAA GGAGAAATAG   8520

ATGTCAATTA TTTTAACAAC GATCGTTGCT TTGGAGCATT TTTACATTTT TTATTTGGAA   8580

AGTATTGCCA CGCAATCAGA TGCGACTAGT CGTGTATTTA ATATGGAAAA GGAAGAATTG   8640

GCTCATCCGT CAGTAAGTTC ATTGTTCAAA AATCAAGGAA TTTATAAGGC TCTGCTAGGA   8700

GTCTTTCTCT TGTATGTCAT TTATTTCTCA CAGAATTTAG AAATTGTGAC TATTTTTGTC   8760

TTATTTGTGA TTGGTGCTGC GACTTACGGC TCTTTAACAG CGGATAAAAA AATTATTTTG   8820

AAACAAGGTG GATCAGCTAT TTTGGCCTTG ATTAGTATTT TACTCTTTAA ATACACTTGA   8880
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739

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AGGTCGATTC TAATCTCGCT AATCCTTTTT AATCCAGAAT AAGGGAAATA TGTTATACTT      8940

GTTTTTAAGA AAAAAGTCTC ATTGAATTGG TTTTGAGGAG TTAGAAATGA AAGTATTAGT      9000

GACAGGTTTT GAGCCCTTTG GAGGGGAAAA GGGCAATCCA GCTTTGGAGG CCATTAAAGG      9060

TTTACCAGCT GAAATCCATG GTGCTGAGGT CCGTTGGCTA GAGGTGCCGA CAGTTTTTCA      9120

CAAATCTGCT CAAGTATTGG AAGAAGAGAT GAATCGTTAT CAACCTGACT TTGTCCTTTG      9180

TATTGGGCAA GCTGGTGGAA GAACTAGTTT GACACCTGAA CGAGTGACCA TTAATCAAGA      9240

CGATGCATGC ATTTCTGATA ACGAAGATAA TCAACCGATT GACCGTCCCA TTCGCCCAGA      9300

TGGTGCTTCG GCCTACTTTA GTAGTTTGCC GATTAAAGCG ATGGTTCAAG CTATAAAAAA      9360

AGAGGGCTTA CCGGCCTCTG TTTCCAATAC GGCAGGGACT TTTGTCTGCA GCCATTTGAT      9420

GTATCAGGCT CTCTATTTGG TAGAAAAGAA ATCTCCATAT GTTAAGGCAG GTTTTATGCA      9480

TATTCCTTAT ATGATGGAAC AGGTGGTGAA CAGACCGACT ACTCCAGCTA TGAGTTTAGT      9540

GGATATTCGG CGAGGGATAG AAGCAGCAAT CGGCGCTATA ATAGAACATG GAGATCAGGA      9600

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ATTCCACCTG TGAATAGGCA TAATACTGTG GAATATAGAG GATATTTCCT ACAATGATCA      9960

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AACGTTTGAG AAGTAGGGTC AAAAAGGTTT GAGAAAAGCG CTCCTCATCA AAGAGAGCTA     10200

GGCTGTTTTT TACAGATGGC TCCGTTTTAG AATCTTTCAT GAGTGTCAGT GTTGCATAGA     10260

CGGAACTGGT CAAAAGAATA GTCCCGATAA AGGAGACTAG TAGAGGAAAG AGGTAGGTTT     10320

GAAGTATTTG GCCAAGTATG CTGAAAAATG GCTGTTCTAA AACAGTCCCG TGGATCCGAG     10380

ATAAGGGATT AAGAAAACCA GATAAGATGA CCAGCATACT GGGAAGGATA TAGAGGAGAA     10440

AGAGACGGGG GGTGTCAGCC TGAAAATGTT TTGACTCCTG ACGAATTGTT TTTAAATCAA     10500

TTTTTGGATA GTTCATTCTC TTATTATACC ATAGTTCTTA TACATAGTTC GTGACAGTTC     10560

CTACTTTTTT TGATAAAATC ATACAGTGTG TCCTTGGGCA CACTGTATGA ACTGGGACTG     10620
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740

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TCTTTCCCAG CTTCGGAGGT AAAAAATGTC AGATTCACCA ATCAAATATC GTTTGATTAA    10680

GAAAGAAAAA CACACAGGAG CTCGTCTGGG AGAAATCATC ACTCCCCACG GTACCTTTCC    10740

GACACCTATG TTTATGCCAG TTGGGACACA AGCCACTGTC AAAACTCAGT CACCTGAAGA    10800

ATTGAAGGAG ATGGGTTCGG GAATTATCCT ATCAAACACC TATCATCTCT GGCTTCGCCC    10860

TGGAGATGAA CTCATTGCAC GCGCTGGTGG TCTCCACAAG TTCATGAATT GGGACCAGCC    10920

TATCTTGACA GATAGTGGTG GTTTTCAGGT TTATTCTTTA GCAGATAGCC GTAATATCAC    10980

AGAAGAAGGA GTAACCTTTA AAAATCATCT AAATGGTTCT AAGATGTTCC TATCCCCAGA    11040

AAAAGCCATC TCTATTCAGA ATAATCTGGG TTCAGACATC ATGATGTCCT TTGATGAATG    11100

TCCTCAGTTT TATCAACCTT ATGACTACGT TAAGAAATCG ATCGAGCGTA CCAGCCGTTG    11160

GGCTGAGCGT GGTTTGAAGG CTCACCGTCG TCCACATGAC CAAGGTTTGT TTGGAATTGT    11220

GCAAGGTGCA GGATTTGAAG ACCTTCGCCG CCAATCAGCT CATGATCTTG TCAGCATGGA    11280

TTTCTCAGGC TACTCTATCG GTGGTTTGGC AGTGGGAGAA ACCCATGAAG AGATGAATGC    11340

GGTCTTGGAC TTTACAACTC AACTGCTGCC TGAAAATAAA CCTCGTTATC TGATGGGTGT    11400

GGGAGCGCCA GATAGCTTGA TCGATGGGGT CATTCGTGGG GTGGATATGT TTGACTGTGT    11460

CTTACCGACT CGAATTGCTC GTAACGGGAC TTGTATGACC AGTCAAGGAC GTTTGGTTGT    11520

GAAAAATGCC CAGTTTGCTG AGGACTTTAC GCCACTGGAT CCTGAGTGTG ATTGCTACAC    11580

ATGTAATAAC TATACACGCG CTTACCTTCG TCACCTGCTC AAGGCTGATG AAACCTTTGG    11640

TATCCGCTTG ACTAGCTACC ACAATCTTTA CTTCTTGCTT AACCTGATGA AGCAAGTGCG    11700

ACAAGCCATC ATGGATGACA ATCTCTTGGA ATTCCGTGAG TATTTTGTGG AAAAAATATGG   11760

CTATAATAAG TCAGGACGTA ATTTCTAAAA TGGAATTGAT ATAAAAAAAT CCTAAGTTTT    11820

CTCTTAGGAT TTTTCTTCTT TTTTTGATAG AATAAAGTGT ACAATGAAAG GAAGAATAAA    11880

CTCGTATGCG CATTAAATGG TTTTCCTCGA TTAGG                                11915
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(2) INFORMATION FOR SEQ ID NO: 97:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9069 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

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GAGAGGGCAA CAGTTCTATC GCTTCAAATT TTTTCTTGGT TTGCAGATAT TCAAGAATCG      60

GGAGTTTTTC TATAGTATTC GGCAGATTTA TTACAGCCAA GCATCTCAAA AATACGGACA     120
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741

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GCATCCTCCA TCTTTTTCTG GCCTTCCTTG ACTCTACCTT GCTTGCTATC AAGGAGACCT    180

TCTGCCCACA GATAAACAAT TCGGAAATAG GTCTCATTTT CCTTGTAGAA ATGCTCTTCG    240

ATAACACGTT TAAAATAATA GGCATTGGTA AATTCTTCAC ACTCAATACT AGCTAAAAAG    300

CCATTCAATA GTATAGTATG AAAAAGGTTT CGATTGCCAG ACATTTCCAT TAGAAAATCA    360

GATTTACGTA CCATTTCTCG TACATATCTA GTAAAAAGAG AAACAGATAA AAATGGAGAA    420

CTGACTGAAA ATAAATTGAG TTCATAGATT CCCCAGATCT CGGTAGAAAA CAAATAATCA    480

TGAAGGACTT TTCCTTCCTC TGCTGTTAAG TCTACCCTTT CATCTATGCT CTTCATATAA    540

GACTTGATAA TAATGGCATT TAGAATATGT TTCTGTTTGT TGTGAGAATG GGCATGCTTT    600

TATACTCCCT GCGATATAAG TCCTCAAGAG GTGCTATATT CTTTGGTTCC AAGACATCTG    660

TAATTTCTTT TCTCAACTCA GAATCTGTAT CATACTGGAA ACCTCTTGCC AGAAAGAGGA    720

TCTCCTCCAC ACTGGCAGAT ATATTTTCCA GAGCAAATAG AAACTTTTCC ACCGAAAGCT    780

CACTCTGACC TGTTTCAAAA CGGGACAACA TAGACGGCGA AAATTGTCCT CCGGTTGCTT    840

GTCTCAGTGA GATATTTCTT GACTCTCGTA ATTGTCTAAA GACTTTTCCA ATCTGCTCCA    900

TAGACTTCCC CTTGATTCCG TATTTTCTTC ATTTTATCAT ATTTTTTCAGA AAATTCATCA    960

AAAACTTGCC AAATTGTCAG AATTATGAGA AAATAGAGGA TATTTATCAC GTGGAGGGAC   1020

TGCTATGAGA GACGATATCA AAATCAATGA CCGTGCTTTG GCCTTGCAAG ACCAAATTAT   1080

CGAAAAACTA GAGAAAGTTT TTGATACAGA TGTGGAATTG GATGTTTACA ATCTAGGTCT   1140

GATTTATGAA ATCAATCTGG ATGAAACGGG GCTCTGCAAG ATTGTCATGA CCTTCACCGA   1200

TACTGCCTGT GATTGCGCCG AAAGCCTGCC TATTGAAATC GTGGCAGGTC TGAAACAAAT   1260

CGAGGGTATC AAAGATATCA AGGTTGAAGT TACCTGGTCG CCTGCTTGGA AAATCACACG   1320

AATCAGTCGC TATGGCCGTA TTGCCCTTGG ACTACCACCT CGTTAAGCAG ACCAATCACT   1380

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CAGCCCAAAA CACTGTTTTG AGGTTGTGGA TAGAACTGAC GAAGTCAGTA ACCATACCTA   1620

CGGCAAGGCG ACGTTGACGT GATTTGAAGA GATTTTCGAG TATGAGTTTA TTTTTTACCT   1680

GACTTGTCCA TATTCCAGAA GTCTGTCACG GCTCCGCGTG AAGCAGATGA TACGATGTGG   1740

GCATATTTAC CGAGGACACC ACGGCTGTAA AGTGGTGGCA AGGTTGTTTC TGCCTTGCGT   1800

TTTTCAAGTT CTTCTTCGGA TACGGCCATA GAAATTTCTT TGGTATCTTG GTCAACCGTA   1860
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742

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ACGATATCGC CGGTACGGAG ATAGGCAATT GGTCCACCAT CCTGAGCTTC AGGAGCGATA    1920

TGTCCAACAA CCAGACCATA AGTACCACCA GAGAAACGTC CGTCCGTCAA GAGGGCCACC    1980

TTATCTCCCT GACCTTTACC AACAATCATT GAAGAAAGTG ATAGCATCTC AGGCATACCA    2040

GGACCACCTT TAGGTCCAAC AAAACGAACA ACGACTACAT CGCCATCAAC GATTTCATCT    2100

GTCAGAACGG CCTGAATCGC ATCTTCTTCT GAGTCAAAGA CCTTAGCTGG CCCAACGTGA    2160

CGACGCACTT TAACACCTGA TACCTTGGCA ACTGCACCGT CAGGAGCAAG GTTCCCGTTC    2220

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ATGCGATCTC CGTGAAGGAA ACCATTTGCC AACAAATACT TCATAACCGC AGGGACACCA    2400

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GCAATGGCGA GCAAGTGAAG AGTGGCGTTT GTAGAACCAC CGAGAGCCAT CGTTACAGTG    2580

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ATTAAAAACA ACAAAGCGGA TTAGTGCACT TTCTGATGAC CAGAATATGC TTTTTAATCC    3540

GCTTTCTTTA AATAACGTAC TGTAATTTTT ACAGAAATTC TTTCAAATAA GTGTATTTAA    3600

CATCTATCTT GCATTATAAA TTTCTAGAAC CTTCTCTTTT ATATTCGATT CACTCAAACC    3660
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743

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ATACTCATTA AGAAGATAAT CCATTTTCCC TACTTGACCG AATCTTTCTT GAACACCCAT    3720

CCGATGAATT TTTGTTATTC CATCATCAGA GAATAATTCA CATAAAGCAC TGCCAATTCC    3780

ACCTATCTGA TTGTGGTTTT CTACAGTAAA TATAGTTTTT CCACTTAACA TTGTTTTTAT    3840

CTGTTCTGGT ATCGGTTTGA TTCTAAATAA ATCTATCACA CCTACTGAAT AACCTAATTT    3900

AGACAGTTCA TCTGCAACTC GAATACTTGG AGCAACCATT ATGCCAGAAG CAACGATTAC    3960

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CACAGGAACT GGAGCTTTTC TAATTGTTCG AATATATTTT AGTCCTTTTA AGTCTAATGT    4080

CTGGTTCAAT ATTTCACGAA ATTGGATATC ATCAGTTGCT TCGAAAATGA TTGATTTAGG    4140

AATTAAACGT AACAATCCAA TTTCTTCAAA TGGCATATGT GTTCCACCAT TCATCTCTGC    4200

CGTTACTCCT GCATCTGATC CAATCACAGT GGCATCCAAT TGTGCGTATC CAAGAGAAAT    4260

AAATAATTGA TCAAATACTC TTCGTGAAGC AAAAGGACCA AATGTATGAA GATAAGGTCT    4320

AAACCCCTGA ATAGACAAGC CTGCTGCAAG GCCGACCATT TCTGCTTCCA TAATCCCAAC    4380

ATTCACATAA CGGTCTCCAA AGTCCTTTTC AAGATTATTA GTAGCCATCG AACTTGACAA    4440

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TTGGATTTCA TTTCTTCCAG CTCTTGAACC CCTTGACCTT TAATAGTATC TAATACAATG    4680

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TTTAAAGAAT ATAAGAATTC TTTGTCAAAG AAACCATTCA AATAGAGTGT ACTGTATAGA    5160

GCTGGTCCTC CGTGACCTTT TGATAATATG AAATAATCTC TATCTCGTGC TGCAAATATT    5220

TCTGGAGTCA TTGGCATTAT TTCACCATAA AGCACCGCTA AAACTTCTAC GATAGACAGA    5280

CTTCCTCCGT AATGTCCGAA TCCAAGATGA TTCAATGTTC TAAGAGTATT TAATCGGATG    5340

TTAGTCGCAA ATTTTCTTAA CCCATCTTCT CTATTTTTAC TTAAAATCAT CCCTTATTCC    5400
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744

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TCCGTTGCAG ATGGCTTTTT AATAAAGGAT ACTCCAAACA TAACTGCTAG AATAAGAACA      5460

AGACCAATCA CAATGCCTGC TTGTGAGCCA AATTGATTTA ACATTCCTAA AATAATTCCT      5520

GATAGACCAA AATCTGCATC TGAGAAAGTT GATCCTTGGA AACCAAGTCC TCCCAAAACT      5580

GGCATTAAAA AGACTGGAAG AAAACTGATT AAAATACCTT GTAAAAATGC TCCAATAGTG      5640

GCTCCACGAA CACCACCAGA TGCATTCCCA ATGACACCTG CAGTCGCTCC ACAGAAGAAA      5700

TGAGGCACAA CACCTGGTAA GATAACAACC GTTCCTGAAG CAATCATAAT TACCATACTT      5760

ACTAAACCAC CAACAAAACT AGAGATAAAT CCAATTAGAA CTGCATTGGG TGCATAAGTA      5820

TAAACAATCG GACAATCCAA AGCAGGTTTT GAATTAGGTA CAAGACGCTC TGAAATACCT      5880

TTAAAGGCTG GAACAATTTC GCCCAAAATA AGGCGAACAC CTGCTAAAAT AACAAATACC      5940

CCTGCTGCAA ATTGACCTGC TAATTGTAAA GCATAAACTA GACCACTTGT ACCACTACTG      6000

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GACAAAGCCT TTAAATGACT CTCATTATCA ATGGCTGCAA TACAAATCAA CAATCTTACC      7200
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745

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GCGTCCATCA AGGGCATCAA AGAATCTTTG ACTAATTCAA ATAAATCAGG ATAATGTTCT      8040

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TGATACCTAC ACAGAATGAA TACTAAACCG AAAAGGTAAA CTTTTAATTG ATTAACAATA      8460

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TTTGATAAAC TATAGCGACC TTGCTTTTTA TCCAGCACTA TCCCTTTATT AGCTAGATAA      8940
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746

GGCACTAAAT AATCTATTCC TTCTTTGACT TCCTTTATAG GTAAGCTCAC CTTAACAGAT   9000

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TAATCAAAC   9069

(2) INFORMATION FOR SEQ ID NO: 98:

        (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 8654 base pairs
                (B) TYPE: nucleic acid
                (C) STRANDEDNESS: double
                (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

CGAGACAACA AGATGAAGAA AAATTTGCCC TATCGTTTGT GGCGCTTGCA AGTGTAGCAC   60

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AGGAAAAGAC AATTAAAATC GGGTTTAACT TTGAAGAATC AGGTTCTTTA GCTGCATACG   180

GAACAGCTGA ACAAAAAGGT GCCCAATTGG CTGTTGATGA AATCAATGCC GCAGTGGTAT   240

CGATGGAAAA CAAATCGAAG TAGTCGATAA AGATAATAAG TCTGAAACAG CTGAGGCTGC   300

TTCAGTTACA ACTAACCTTG TAACCCAATC TAAAGTATCA GCAGTCGTAG GACCTGCGAC   360

ATCTGGTGCG ACTGCAGCTG CGGTAGCGAA CGCTACAAAA GCAGGTGTTC CATTGATCTC   420

ACCAAGTGCG ACTCAAGATG GATTGACTAA AGGTCAAGAT TACCTCTTTA TTGGAACTTT   480

CCAAGATAGC TTCCAAGGAA AAATTATCTC AAACTATGTT TCTGAAAAAT TAAATGCTAA   540

GAAAGTTGTT CTTTACACTG ACAATGCCAG TGACTATGCT AAAGGGATTG CAAAATCTTT   600

CCGCGAGTCA TACAAGGGTG AAATCGTTGC AGATGAAACT TTCGTAGCAG GTGACACAGA   660

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TAAAGCCTTC CTTGACGCTT ACCGTGCTAA GTACAATGAA GAGCCTTCAA CATTTGCAGC   960

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TGAAATCAAG AATAACCTTG CTAAAACAAA AGATTTTGAA GGTGTAACTG GTCAAACAAG   1080

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AGTTGAAGCA GCAGAAGTTG TAAAACCATA ATAGAAAAAT GTTGAAATAG GGAATGAGCC   1200

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747

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AATCGCTGCT GAGTCAGTTG GGGTTAATAC GACTAAAATT AAAATCATCG CTTTTGTCTT    2940

TGGTGCCATT ACTGCAAGTA TTGCTGGGTC ACTTCAGGCA GGATTTATCG GGTCTGTTGT    3000
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748

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ACTCGGTTCC ATTACAGGTG CGATTGTTTC GGCTATTGTT CTGGGAATTT TGAATATGCT      3120

TCTCCAAGAT GTTGCTAGTG TGCGTATGAT TATTTACGCT TTGGCCTTGG TATTGGTAAT      3180

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AAAATCTTGA AATGGGAGCT TTCTTAAAGA AAAATCGTGA AGAAAATCAA GCTAACTTGA      4380

AGAAGGTTTT CTCACGCTTT CCTCGTCTTG AAGAACGGAA GAACCAAGAT GCAGCCACTC      4440

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ATAAAGCACT TGCAATCTCT GACCGAGGAT ATGTACTGGA AACAGGGAGA ATCGTCCTAT      4680

CAGGAACAGG AAAAGAACTC GCTTCATCAG AAGAAGTCAG AAAAGCATAT CTAGGTGGCT      4740

AAAACAATCC AGTGGATTGT TTTAGTCGGC AGATGGAGAT TACGAAGTAA TCATCAATAT      4800
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749

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TTGGATGATA CTATTGAAGT GGAAATCCGT GAAGATGATA TCAAGATGGA TACCTTCCGT    6540
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750

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TCAGGTGGTG CCGGTGGACA AAACGTCAAT AAGGTTTCAA CAGGTGTACG TTTAACCCAC      6600

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751

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ATCGCACCAT CTGTTTTGGT CTTTATTGTT TATCAAATTG TTTACCAATC TGTCAACAAA    8400

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CGATTCTTGA AGATTTAGGT AAAATAGCTG CTTTTATGAG GAGATTGTAA AATCTCCTTT    8580

TTTGCTACAA GAGTTTTTGA AAAGAGATGC GCAGAAGAAA AGAGCTTCCA AAGAAGTCCC    8640

CCAGAGAAGA CTTC    8654
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(2) INFORMATION FOR SEQ ID NO: 99:

        (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 19718 base pairs
                (B) TYPE: nucleic acid
                (C) STRANDEDNESS: double
                (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

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TGTCGCGTCA AAATCATTAC TATGGCTATG TATAGCCCTT ACTATGACTT GGCTAAACAC      60

GTTCGCTTTC AAATTTCTAG GCTCAGGCTG AAACAGTCTC CCAGGCTGTT CACTCCCGAA     120

TGCTAAAATC GTTCTTGATC GCTTTCACAT TGTACAACAT CTTAGCCGTG CTATGAGTCG     180

TGTGCATGTC CAAATCATGA ATCAGTTTCA TCGAAAATCC CATGAATACA AGGCTATCAA     240

GCGCTACTGG AAACTCATTC AACAGGATAG CCGTAAACTG AGTGATAAGC GATTTTATCG     300

CCCTACTTTT CGCATGCACT TAACAAATAA AGAAATTCTT GACAAGATTT TAAGCTATTC     360

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GATTTCTACC ATAGATGGCT TATCAGTCTC ATAGTCGTGT TGACTTGGAT CGTAAACCTT     900

CAAGACCTTC TTACGTTCCA AGATTGGATC TGGGATTGGT ACCGCTGAAA GCAAGGCTTG     960

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752

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CCTCATGAAG AAGCCAAGTT TTAGCCCAAT GTGTCTCTGA TACTGAGAAT TGAGGAGCTT      1860

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CTTCCTCAAC CGTTCCATAC TCAACGATTT CTCCTGCATA CATAACCGCT ACCTTATCCG      2100

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758

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759

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CAGCATCCTC TGTGACTCCT TGTTCGCATA GTAGAAGAGC TGGTGTTTGA GCATGACCAG       15660

AAGCACCTCG GTTTGAACTA ATCGAAAAGA TTCCTTGTTC TACCTGTTGA CGTCTAACAG       15720

TCTTTTCACG AGCATAAGCA CCCTGCAGAG TTACTATTTC GTAATCTGCA GCTGGAAAAT       15780

CAGCCATAAA AGAAAAATCT TTATGGATGA CAACTTCCTG ATTACTATTA TTATCTAATT       15840

TACTGTAGCT AGCAATAGTC GCATCATTAT TAAAAGTAGT ATAATACAAA GTCAGACTAA       15900

GTTGAGCCTT AGAATCTTCT AACATTAAGA CAAGAGTCTC TGTATCGTCC ATGCTATGTG       15960

GAGAAGGTAA GCCCTGTGGA CCATTCTGAC CTTTTAAAAT CTTTGCTTCT ACAAATCGAA       16020

AGTCTGTTAC TTCAGTTACA CTATGCTGAA CCTGTATGGT TGGTTCCTA AAATCTCCTA        16080

AGCCATGTTG TCCAAAAATC TGTCGCTGAG TATCTAAACT AAAGGTTCGA TTAGTAGCCG       16140

TTGGATTTCC TGAAAAGGCA TGGTCTCGTT CATAAACACT ATTGGAACCT TTATAGTTCT       16200

TAATAGTCTT TCCTAAATGT TTCAAAAGTA AGTAGCCATT TCGATTTTCA ATAATCAAAC       16260

TTAGATTTTT ACTCTCAACA TAAAATAGAT TATTCTCTAT CCTAACTCCC ATTTACTTCA       16320

CCTCATCACT TTATTGATTA TATTTTATCA CCTGAAATCG CTTTCCAAAA TAGAAAAATG       16380

TCTCAAGAAT ATGGTAAAAT GTTAGGTAGG AGGTAGCACA TGTTAGTTTT TTCAGAATAC       16440

CAGACTGGAA CAATCGACCT TGCCCTAAGC TTTTATGGAT ATGAGGAATG CACACCTAAT       16500

TACTCTTTTG GTCCAGCCAT TCGTGATACA TACGTTCTAC ATTACATTAC TAAAGGACAA       16560

GGAAAATTTC ATTACAAGGG TAAAATTGTT GATTTAAAAG AAGGAGATTT CTTTCTATTA       16620

AAACCAGAGG AACTAACCTT TTATCAAGCA GATAGTAAAG AACCTTGGGC CTACTACTGG       16680

TTAGGAATCA CTGGAGGGAA AGCCCCTGAT TATTTTGCTC TTTCCCAAAT TTCTGATCAA       16740

TCCTATCTCA TCCAATCTGA AACTTGTCAT ACCCAGACTA CTGCAAAACT CATCTCAGAC       16800

ATTGTCCGCT TCGCTCAGAT TACAAAATCA AGTGAATTAG CTCAACTCCA TATCATGGGA       16860

CAACTTCATG AACTGATGTT TCATCTGGGA ACTATTGCTC CCAATCAGAA AAAAAAGAAT       16920

ATTTCATCAA CCCACCAACT CTATCTTGAA TGCAAACGAT TAATTGATAG CCACTATCCT       16980
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761

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CAATCACTTA CAATTCAAGA TTTAGCAAAA GAACTATCCG TTCACAGAAG CTACTTATCA    17040

AGCGTATTCA AAGAATTTAA TACCTTATCA CCCAAAGAAT ACCTACTCTA CGTTCGAATG    17100

CACCGAGCTA GACAACTTCT CGAAAATACC CAAGAGTCCA TCAAGGTAAT TGCATACTCG    17160

GTAGGTTTTT CAGATCCACT CCATTTTTCG AAAGCTTATA AACAATACTT TAATCAGACT    17220

CCAAGTCATA CAAGAAAGA ATACTCTCAA TACCAACTAG TAAGAAAGGC AACATTATGA    17280

AATCCTACCA AGCTGTCTAC CAAATCCTAT CTAAAGAAAC CGACTATATC AGCGGAGAAA    17340

AAATCGCAGA AAAACTATCC CTAAGCCGAA CAGCAATTTG GAAAGCCATC AAGCGACTAG    17400

AACAAGAAGG CATTGAAATT GATAGTATCA AAAATAGAGG ATATAAACTG ATGAATGGTG    17460

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CACCACAAGG TGGTATTTAT ATGACACTCC ATCTTAAACC AAATCTCCCC TATGACAAAT    17700

TACCATCCTA CACACTACTT GTAGCTGGAG CTGTCTACAA AGCCATTAAG AACCTAACTT    17760

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GAATCCTTAC TGAAGCAATG ACCTCTGTAG AAACTGGCTT AGTCACAGAT ATCATTATTG    17880

GAGTAGGTAT CAATTTCACT ATTAAAGACT TCCCTCAGGA ATTAAAAGAA AAAGCTGCCA    17940

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CTTTCTTCGA AACACCAGCA GAAGAGCTAT TATACCTATA CAAAAAACAG TCATTCATTC    18060

TAGGAAAAGA AGTCACTTTC ACACTAGAGC AAAAAGACTA CAAGGGACTT GCTAAAGACA    18120

TCTCAGAAAA TGGAAAACTT TTAGTTCAAT GTGATAACGG AAAAGAAATC TGGCTAAATA    18180

GTGGCGAAAT TTCTCTCAAT AGTTGGAAGT AAAATAACAC AATTATAATA TAAACGATAT    18240

AAAAATAACT TCAGATTAGT AATTCAATTA AGTTTTACGG ATCTGAAGTT TTATTGGCTC    18300

TAAAAATAAA AAAGAGAGTT ACAGACTCTC ATTAAAACGG AGAATAAGGG ATTCGAACCC    18360

TTGCGCCAGT TACCCGACCT AACGATTTAG CAAACCGTCC TCTTCAGCCT CTTGAGTAAT    18420

TCTCCAATTA ATGGGCACGA GTGGACTCGA ACCACCGACC TCACGCTTAT CAGGCGTGCG    18480

CTCTAACCAC CTGAGCTACG CGCCCAAGTT AAAAAACTTG GTAATTTGAA CAAAGTTCAA    18540

AGCGGGTGAC GAGAATCGAA CTCGCGACAA CAGCTTGGAA GGCTGTAGTT TTACCACTAA    18600

ACTACACCCG CATAAATACT ATCAATAAAA TGGCGCGAGA CGGAATCGAA CCGCCGACAC    18660

ATGGAGCTTC AATCCATTGC TCTACCAACT GAGCTACCGA GCCTTATTGC GGGAGCAGGA    18720
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762

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TTTGAACCTA CGACCTTCGG GTTATGAGCC CGACGAGCTA CCGAGCTGCT CCATCCCGCG    18780

TTAATAATAT AAAAGGAGGA TGTGGGATTC GAACCCACGC ACGCTTTTAC ACGCCTGACG    18840

GTTTTCAAGA CCGTTCCCTT CAGCCGGACT TGGGTAATCC TCCAATATTC AAATGGACCT    18900

TGTAGGACTT GAACCTACGA CCACTCGGTT ATGAGCCGAG AGCTCTAACC AGCTGAGCTA    18960

AAGGTCCGAC AAGATCATTA TAGCGGCGAA GGGGATCGAA CCCCCGACCT CCCGGGTATG    19020

AACCGGACGC TCTAGCCAGC TGAGCTACAC CGCCATGAAT CGGGAAGACA GGATTCGAAC    19080

CTGCGACACC TTGGTCCCAA ACCAAGTACT CTACCAAGCT GAGCTACTTC CCGAGTTAAA    19140

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TATCCAGTTG AGCTAAGGGT GCTCCATATT ATGCCGAGGA CCGGAATCGA ACCGGTACGA    19260

TCGTTACCAA TCGCAGGATT TTAAGTCCTG TGCGTCTGCC AGTTCCGCCA CCCCGGCCTC    19320

TCTAAGCGAA CGACGGGATT CGAACCCGCG ACCCCCACCT TGGCAAGGTG GTGTTCTACC    19380

ACTGAACTAC GTTCGCACTG TTTTCTTCTA TCTAAAAATG CCGGCTACAT GACTTGAACA    19440

CGCGACCCTC TGATTACAAA TCAGATGCTC TACCAACTGA GCTAAGCCGG CTCATTTGTT    19500

ATATCTTAAT GCGGGTTAAG GGACTTGAAC CCCCACGCCG TTAAGCGCCA GATCCTAAAT    19560

CTGGTGCGTC TGCCAATTCC GCCAAACCCG CATATATGAC CCGTACTGGG CTCGAACCAG    19620

TGACCCATTG ATTAAAAGTC AATTGCTCTA CCAACTGAGC TAACGAGTCT AAAATAACTT    19680

GCGTTACCTT AAACGGTCCG ACGGAATCGA CCCGGTAC                            19718
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(2) INFORMATION FOR SEQ ID NO: 100:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 4117 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

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CCGTGGAAAA GTCTGGATAG TGAATGGTCT TCACACAATG ACCTGAAAGA AGCCTGAGAA     60

TAATTATGGA GAGTAGCATT CTGAGAGGTG TTAGCAGAAC CATATGACAG AGCTGTTTGA    120

AGAGGGAATA TTGAGGAGAA AAATCCTGAG CCTACCAGTT GGAGTTGGAA AGAGCTGACT    180

GTTAGATCAT GGTTTATTAT CCACAACCTG TGGATAACTT TGTGAATAAG AGAAGTTGCT    240

AAAGAAGGAG ATATATAACG ATGAAGAAAA TCAAACCGCA TGGACCGTTA CCAAGTCAGA    300

CTCAGCTAGC TTATCTGGGA GATGAACTAG CAGCTTTTAT CCACTTCGGT CCTAATACCT    360

TTTATGACCA AGAATGGGGG ACTGGACAGG AGGATCCTGA GCGCTTTAAC CCGAGTCAGT    420
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TGGATGCGCG TGAGTGGGTT CGTGTGCTCA AGGAAACGGG CTTCAAAAAG TTGATTTTGG     480

TGGTCAAGCA CCACGATGGC TTTGTCCTTT ATCCGACAGC TCACACAGAT TATTCGGTTA     540

AGGTCAGTCC TTGGAGGAGA GGAAAGGGCG ACTTGCTCCT TGAAGTATCC CAAGCTGCCA     600

CAGAGTTTGA TATGGATATG GGGGTCTACC TGTCACCGTG GGATGCCCAT AGTCCCCTCT     660

ATCATGTGGA CCGAGAAGCG GACTACAATG CCTATTATCT GGCTCAGTTG AAGGAAATCT     720

TATCAAATCC TAACTATGGG AATGCTGGTA AGTTCGCTGA GGTTTGGATG GATGGTGCCA     780

GAGGAGAGGG CGCGCAAAAG GTTAATTATG AATTTGAAAA ATGGTTTGAA ACCATTCGTG     840

ACCTGCAGGG CGATTGCTTG ATTTTTTCAA CAGAAGGCAC CAGTATCCGC TGGATTGGCA     900

ATGAACGAGG GTATGCAGGT GATCCACTGT GGCAAAAGGT GAATCCTGAT AAACTAGGAA     960

CAGAAGCAGA GCTGAACTAT CTTCAGCACG GGGATCCCTC GGGCACGATT TTTTCAATCG    1020

GAGAGGCAGA TGTTTCCATC CGTCCAGGCT GGTTCTACCA TGAGGATCAG GATCCTAAGT    1080

CTCTCGAGGA GTTGGTCGAA ATCTACTTTC ACTCAGTAGG GCGAGGAACT CCACTCTTGC    1140

TTAATATTCC GCCGAATCAA GCTGGGCTCT TTGATGCAAA GGATATTGAA CGACTTTATG    1200

AATTTGCGAC CTATCGCAAT GAGCTCTATA AGAAGATTT GGCTCTGGGA GCTGAGGTAT     1260

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GCTCTTGGGC AAGCGATGCA GACTTGCCCA TCCAGTTAGA ACTCGACTTA GGTTCTCCTA    1380

AAACTTTTGA TGTAATTGAG TTAAGAGAAG ATTTGAAGCT AGGGCAACGA ATCGCTGCTT    1440

TTCATGTGCA AGTAGAGGTG GATGGTGTCT GGCAGGAGTT TGGTTCGGGT CATACTGTTG    1500

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CAGAATCACA GGCTTTGCCT TTGTTGACCA AGATTTCCCT TTATAAAACT CCTGGATTAT    1620

CAAAAAAAGA AGTTGTTCAG GAACTAGCAT TTGCAGAAAA AAGCCTAGCT GTGGCAAAGG    1680

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TAGTGACTTG GTAACCAGCT GAGGGTGAAA GTTAGTTGTT CAGCTTTTAA GAGGTCTTGG    2040

TGTTGAATAG TTGATACGAG TGTTTTGTCC AGTCGGCATT CTTTGACAAA GTTAAAATGG    2100

TTGTGGTTTT GTTTAGTATG GATATCCAGC CATTTATCTT CTTTAGCGAG GTAGACTCGT    2160
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764

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AGATGGTCAA AGAGAGGGAT TCCGAGGTCA TAGCTTGGTT TTCCTGGACA GGTTGGATAA    2220

AATCCGAGAG CTGACCAGAT GTACCAAGCA GAGAGACTAC CATTGTCTTC ATCTCCAGGA    2280

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TAGTCAGGGT AATCGCTGTA ACGGAAGAGA TAAGGAATGT GGAAACTAGG CTGGTTGGAA    2400

ATGGCTATTT GTCCAAAAGG AGCAGTAGCC ATCTCGCTCA TTTCGTGAAT TTCGTAACCA    2460

TAGCCTGTTG TTTCAAAGAG GGGAGCATCT TGACAGGCTT TCAAAAGATA GTTGCTAAAG    2520

GTTTCTTTTC CACCCATCAG TTGGATTAAG CCAGGGATGT CGTGGAGAAC GCCTAAAGTA    2580

GCTTGAATGG CAGAGCATTC AGCGTAGTCT CGCCCCCAAC TATAAGGAGA GAAGTCAGGG    2640

TGAAAGTTTC CTTGATTGTC TCGTGCTCGC ATGTAACCTG TCTCAGCGTC AAATAGCTGG    2700

CGGTAATTTT GTGAAGCAGC CTTGTAGGTT TCAGCGATTT CTATGTTCTC TAGTTTTTTG    2760

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GGGAAGGTGG TGCGGAAGGT ATCCCAGAAA CCATTGTTGC TAAAGAGGAC ACCAGGCTTG    3180

ACAGTACCAG TAGCCAGATC CATGTGGATG GCTTGCCCTG ATTCATTAAT CTCATAAAAA    3240

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GAAGTGGCTA GTTGCATCTC GGTTTGACTA CTTGCTAAGT CAATTCGCCA GTCTCCAGCT    3480

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TTTTTGTTAG TTTCAGTTTT ACCTTCTTGT CGCAGGGCAA GAGTCCGCTT ATCTACTTGC    3600

TCTACTGTCA GTTCATCTGC TGCGTGAAGA TAGAGGGAGA GGGCTTTGCC TTGCTTTTGA    3660

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TGGCGGTGAA AGAGGCTGTC TCCCCCCAGT TGACTGGTGA CAGGTGTCAG AAGGAGCCAA    3840

GAGTAGTCCC CAATCCAAGG ACTGGGCTGG TGAGTTAATC GAATCCCCTG AAAGATAGGC    3900

AGATGTGGAT CAAAAAACCA AGATCCATCC TGGTCACTGG TCTGGGCAC AAAGTAATTC    3960
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765

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ATCCCAAAAG GCACGCCTGT GTATGGCAGG GTATTTCCCC GAGAAAAGGC ATGCTTGTTG      4020

GTAGTTCCAA AACGGGTATC GATGGTATCA AGTAGTGGTT TCATAGTCTT TCCTTTAGCT      4080

GTTTTTCTAC ATTATATCAG TAATAGAGGG CCTTTAG                              4117
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(2) INFORMATION FOR SEQ ID NO: 101:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2727 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

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CTGGTTCAAT TATTATTCAC TCTAAGTAGT CATATGTTCT TTATTTATGT GAGTTTTTAC       60

CTTTTAAAGG ATCTTGTTAG ATGGGAGAAG GTTTTAAAAG TGACAGATGA TAATACAAGA      120

AAAGTTCGTT TATTAGTAGC CTTTTTTAGC ATTGTCATAG GCTACATCCT GAGTTCTTTC      180

TTTATTAGCC TGTATCATTT GTGGCAAGAA GCGCTTAGAG GATTATTATG AAATCAAGAG      240

TAAAGGAAAC GAGTATGGAT AAAATTGTGG TTCAAGGTGG CGATAATCGT CTGGTAGGAA      300

GCGTGACGAT CGAGGGAGCA AAAAATGCAG TCTTACCCTT GTTGGCAGCG ACTATTCTAG      360

CAAGTGAAGG AAAGACCGTC TTGCAGAATG TTCCGATTTT GTCGGATGTC TTTATTATGA      420

ATCAGGTAGT TGGTGGTTTG AATGCCAAGG TTGACTTTGA TGAGGAAGCT CATCTTGTCA      480

AGGTGGATGC TACTGGCGAC ATCACTGAGG AAGCCCCTTA CAAGTATGTC AGCAAGATGC      540

GCGCCTCCAT CGTTGTATTA GGGCCAATCC TTGCCCGTGT GGGTCATGCC AAGGTATCCA      600

TGCCAGGTGG TTGTACGATT GGTAGCCGTC CTATTGATCT TCATTTGAAA GGTCTGGAAG      660

CTATGGGGGT TAAGATTAGT CAGACAGCTG GTTACATCGA AGCCAAGGCA GAACGCTTGC      720

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CAGCGACTCT GGCTGATGGG GTGACAGTGA TTGAGAATGC TGCGCGTGAG CCTGAGATTG      840

TTGACTTAGC CATTCTCCTT AATGAAATGG GAGCCAAGGT CAAAGGTGCT GGTACAGAGA      900

CTATAACCAT TACTGGTGTT GAGAAACTTC ATGGTACGAC TCACAATGTA GTCCAAGACC      960

GTATCGAAGC AGGAACCTTT ATGGTAGCTG CTGCCATGAC TGGTGGTGAT GTCTTGATTC     1020

GAGACGCTGT CTGGGAGCAC AACCGTCCCT TGATTGCCAA GTTACTTGAA ATGGGTGTTG     1080

AAGTAATTGA AGAAGACGAA GGAATTCGTG TTCGTTCTCA ACTAGAAAAT CTAAAAGCTG     1140

TTCATGTGAA AACCTTGCCC CACCCAGGAT TTCCAACAGA TATGCAGGCT CAATTTACAG     1200
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766

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CCTTGATGAC AGTTGCAAAA GGCGAATCAA CCATGGTGGA GACAGTTTTC GAAAATCGTT    1260

TCCAACACCT AGAAGAGATG CGCCGCATGG GCTTGCATTC TGAGATTATC CGTGATACAG    1320

CTCGTATTGT TGGTGGACAG CCTTTGCAGG GAGCAGAAGT TCTTTCAACT GACCTTCGTG    1380

CCAGTGCGGC CTTGATTTTG ACAGGTTTGG TAGCACAGGG AGAAACTGTG GTCGGTAAAT    1440

TGGTTCACTT GGATAGAGGT TACTACGGTT TCCATGAGAA GTTGGCGCAG CTAGGTGCTA    1500

AGATTCAGCG GATTGAGGCA AGTGATGAAG ATGAATAAGA AATCAAGCTA CGTAGTCAAG    1560

CGTTTACTTT TAGTCATCAT AGTACTGATT TTAGGTACTC TGGCTCTAGG AATCGGTTTA    1620

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TAAAGATAAG GAGAAATATG AACAAAAAAA CAAGACAGAC ACTAATCGGA CTGCTAGTGT    1800

TATTGCTTTT GTCTACAGGG AGCTATTATA TCAAGCAGAT GCCGTCGGCA CCTAATAGTC    1860

CCAAAACCAA TCTTAGTCAG AAAAAACAAG CGTCTGAAGC TCCTAGTCAA GCATTGGCAG    1920

AGAGTGTCTT AACAGACGCA GTCAAGAGTC AAATAAAGGG GAGTCTGGAG TGGAATGGCT    1980

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CCTACGCTGA CAATAAAACA AAGACAGTGG GCAAGGAAAC TGTTCCAACC GTAGCTAATG    2100

CCCTCTTGTC TAAGGCCACT CGTCAGTACA AGAATCGTAA AGAAACTGGG AATGGTTCAA    2160

CTTCTTGGAC TCCTCCAGGT TGGCATCAGG TCAAGAATCT AAAGGGCTCT TATACCCATG    2220

CAGTCGATAG AGGTCATTTG TTAGGCTATG CCTTAATCGG TGGTTTGGAT GGTTTTGATG    2280

CCTCAACAAG CAATCCTAAA AACATTGCTG TTCAGACAGC CTGGGCAAAT CAGGCACAAG    2340

CCGAGTATTC GACTGGTCAA AACTACTATG AAAGCAAGGT GCGTAAAGCC TTGGACCAAA    2400

ACAAGCGTGT CCGTTACCGT GTAACCCTTT ACTACGCTTC AAACGAGGAT TTAGTTCCCT    2460

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CCAATGTTCA AAAGGGACTT CAACTGGATT ACCGAACTGG AGAAGTAACT GTAACTCAGT    2580

AAAAGATACG CCTACACTCC TATGTCACTT ATGGATGTAG GAGTTCTTTT TACTAGTTTA    2640

AGCAGGACTA AGACAGGTAC TAAGACAAAA TAGCAACTTC TAAAACTAAC TTCCAGTTTT    2700

GGGAGAGAGA TGGAAGTTAC TTTGAGA                                         2727
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(2) INFORMATION FOR SEQ ID NO: 102:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 5717 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

767

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

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TTTTTTGTAG ATTTAAGTGG GGTGCAATTC CTAAAAAATA AAAAACAATT TTTGAAAATT        60
ATGTTAGCAG GAATTGCTTC AAATTCGATT TTATCACTTA CAGGTTTACT TGTTTTATTG       120
TTCACATCGT ATAAATTGCT TGGACTCTTA TTTTTTATCA TTAACTTAGG TATGATTTTT       180
ATTAATTCAA TTCCTTTTTT TCAGTATGAT AGTGGTATTA TTTTAAGATA CTTGAATTCT       240
AACAATAATA ACTTGAATTT TCAATATATA GTTCAACTTT TAATAGCATT TGTTATTATT       300
TATTTTCCTT TGAGTCAACT ATTACAGTTT TTGACACCCA ATATTATTGT TCGTAGTATA       360
GGAGGGGTGG TTGTTTCTAT ACTGCTTTCT ATATTATATA TGATAGGAAG GACGAAATAT       420
GTTCTACGTA AATAGTTATG TTTTTGCTTA TAAAAAAGAA GGTATAATGT ATTTACGTGG       480
TCGGAGTATG CGGGAAATAG CTATAGAACC TCAAATTTCG CAAGAATTTA TCAACGATCT       540
ATTTAATAGT TGTAAGGAAC TATTAGAGAT AGAAGAAGTA TTAGGCAGTA AACTAACATT       600
TGAACTATAA ATGAACAAAT TTTAATTTCG GATGAGATAG ATATTGATAG TAGATATTCT       660
AGAACTAAAG GTTACTATTC GTTATTTTAT AATGAAGAGT ATAATAAAAT ACAGAATAAA       720
ACAGTATTAG TATTAGGAGC AGGAGTCTTA GGATGTTATA TATCTCTAAG TCTAAGTATG       780
TATGGAGTGA GGAAACTTAT TGTCGCTGAT TACGATATAA TAGAACCATC AAATTTAAAT       840
AGGCAAATTC TTTATACAGA GTCGGATGTT GGTAAGGAGA AGATTAATGT TCTTTCTGAA       900
AAAATACACA AGTATAATTC AGATGTTCAG GTAGTACCTA TTTCTATTAA AGTTTCTTCA       960
GTAGAAGAAT TAGAAAAAAT TGTTGCGGAA TATGGGAGTA TAGATTTTAT CGTTAAAGCA      1020
ATTGATACGC CCATTGATAT TATAAAAATT GTCAATCAAT TTGCTGTATC GCATAAGATA      1080
TCCTACATAT CAGGAGGGTT TAATGGATGC TATCTTATTA TTGATAATAT ATATATCCCT      1140
ACCATCGGTT CTTGCTTTGG TTGTCGGAAT ATAAACAAAG ATATAAATAA GTACACTTTA      1200
TCTGATAAGA CAAAGTGGCC GACTACACCA GAGATGCCTG CTATTTTGGG AGGGATAATG      1260
ACTAATTTAA TAATTAAAAT ATTTCTGGGA TGTTATAAATG AAATCCTAAT AGATAACGCT      1320
TACGTTTATA ATATGAGAAA TCATGCTCTA AGTCAAGAAA AATATGTTCT GGAAAACGGA      1380
GAATGTCCAA TTTGTAAAAA AATAATAAAG TGAAAGATAA CAATATTAGA GCGAAAACAT      1440
TTATTCGTTC AGTTTGTTTT TGCTTATTAT CAGGAGGAGT AGCTTTTTTA TCTGCTATTG      1500
GGCAGTTCAC TGTTATAGAA ACACAATTAA TAGTATTGTT CTTGGGTATT ATTTTTGCTA      1560
TATATTATGC TTACTACAAT AAAAAATATTC AAACATCATT GGAAAATATA GTATGGCTTT      1620
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768

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TTTCATCGTT TGAGATTTTA TTTTTGCTTG TTAATTTTAG AACATTTATT CAGTTACCAG          1680

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AAAATAGGTA TAATGAGCAT TTGCATATAT ATAATTATTT TATACTGCTT GAGAATGTAT          1860

CGTATTATCA ATAATATTGA AACAATCTTG CTAACGGTTA TATGCTTAAT GTTATTGTTT          1920

TTTTTAAGAC GTTTATTTGA TAAAGATAAG TAAATAGATG TTAAGTAAAA ATGTAGAATA          1980

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ACCATCTGGT TCTGGAAAGA CCACAACGAT TAATATTCTG ACTGGGCAGT TCCTTGCCGA          2160

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GAGAATTGGA TTGGTTAGCG ATACAAGTGG ATTTTATGAG AAAATGTCTC TGTATAACAA          2280

TCTTCTTTTT TATAGTAAAT TTTATAATAT TAGTAAATCA CGTGTTGATA ATTTGTTAAA          2340

GCGAGTAGGA TTATATGATA GTCGCAAGAT GGTAGCAGGA AAATTATCCA CTGGAATGAG          2400

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ACCGACCTCA GGTCTAGATC CCACAACTTC TCGAACAATT CATGAGTTAA TTTTAGAATT          2520

GAAAACAGCA GGGACAACGA TTTTTCTAAC GACTCATGAT ATGAATGAAG CAACTCTTTT          2580

ATGTGATTAT GTTGCCTTAT TAAATAAAGG GAAATTAGTT GAGCAAGGAG CTCCTTCTGA          2640

ACTCATTCAA AGATATAATA AAGATAAAAA GATTAAGGTT ACAGATTATA ATGGGAATCA          2700

GATAACTTTT GATTTTACAT CACTAGAACA GGTATCTCAG ACTGATCTGG AAAATATTTT          2760

TTCAATTCAT TCATGTGAGC CTACTTTAGA AGATATTTTT ATCACATTAA CAGGAGGAAA          2820

GCTAAATGCT TAAACGGTTT CTGGCTTTGG TATGGTTGCG TTGTCAAATC ATCCTTTCCA          2880

ATAAGAGTAT TTTATTGCAA GTTTTAGTGC CTTTTGCTTT CACATATTTT TATAAATATC          2940

TTATGGAAAC ACAGGGGAAG GTCAACGATC AACAGGCATT AGTTCTTTTG ATGATGTGTT          3000

TACCTTTTTC TTTTTCTTTG GCTGTTGGAA GTCCTATAAC TATTATCTTG TCTGAAGAAA          3060

AAGAAAAGTA CAATTTACAA ACTCTTCTGT TGAGTGGTGT TAAAGGCTCC GAATACATTT          3120

TATCAACTAT GTTTCTTCCT TTTTTGCTAA CTTTTGTGAT TATGGGAACT ACTCCTCTTA          3180

TTTTAGGAGT TACAATTGTA CATACTTTTA ATTATATTAC AATCGTTCTT CTAACCTCTT          3240

TATCCATCAT TTTATTCTAT TTATTGATAG GTTTAACCGC GAAGAGCCAA GTAGTAGCTC          3300

AGGTTATCAG TCTTCCTGCT ATGATTTTAG TTGCTTTCTT ACCGATGCTA TCTGGTTTGG          3360

ATAAGACAGT TGCGAAGATA ACAGATTATA GTTTTATGGG ACTATTTACT AAGTTTTTCA          3420
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769

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CAAAATGGGA GGAATTTTCA TGGAATAAAA CTCTAATTCC TAATCTAACA CTACTTATTT    3480

GGATTGTTCT TCTATTAACT TTAATTACGA TAACTATTAG GAAAAAGAAA ATTTCTTAAT    3540

TGAGTTATTT TAATGATTAT AAACACAAGT GGGAAGGAAA AAATGAACTG ATCTTTTTGA    3600

CAGCAATTCT ACAGAATAGT CTTATTGCTA TATTTTGATT TGAGTGTACG AAAAAAGAAA    3660

AATAACAATA GTGCTCATAC TAATTGCAGA AGTTTTGGGT GATAAGATAA CTGATAAATT    3720

GCAATAAAAA ATGCAACATT TTTAAATCTC CTCTATAAGT GCTTCAAAAA GTGCTTCAAA    3780

ACCTGTCTTG TAATCCAAGT ATTTTTGGGG ACGGTGATTA ATAAGCTAGC AAAGCATCAT    3840

TAAGGATTTT TTCGGTAATT GTTGCCAAAT CGGTTTAAGA AAATACTCAC GAAGAAGTCC    3900

ATTCGCATTC TCATTACTTC CCCTTTGCCA AGATGAATAG GCATCCGCAA AATAAAACAG    3960

AATTCCCATT TGTTCAATTA AAGGGTAACA AGCAAACTCT TTTTCTCTGT CCGAAGTGAA    4020

AGTCTTTAAC TATTCTTTTG GAAAGAGTCT TGTGAGGTGT TCAATAGCAG TCAACATGGA    4080

TTTAGCTGTT TTTACTTGAC AAGTGCTAGT AGAAATAATA GAATAGTAAA AAACCTTTAA    4140

AGCAGTCCAG AGAGGCAGCT AAGGTTAGAC GGTGAAAGGG TGGAGACTAC CCATTTTTCG    4200

TGGAACCTTG CTGTTGGCAG GTTCCTTTTT TCGTGGCTTC TGTTGGCCAG ACTCTCTCAC    4260

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GTAACTCAGC TCACATCAAC GTCAGAAGCT CAGATGCAGG AGTTTCAAAA TATCCAAACC    4680

AGTCTGCAAG AGTCTGTGAT TCACTATGCC AAGAAGACAC CTGAAGCTGG CTTGGATGGT    4740

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TGTCTGACAC CAGGGATTCG TCCAGCTGGT GTTGCAGTTG GAGATCAAAA ACGAGTCATG    4860

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GCTAGCCACC TCTTGAAAAT CCAAGCCGTT TACCTCAAAC CAGAGGAACC CTTCACTTGG    5100

GCATCTGGTA TCAAGTCACC GATTTACACT GATAATCGTG TGACACTAGC CTATCCAGAA    5160
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770

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ACTCGTACCC TAATTGAAAA TGGTTTTGTG GAAGCTATCA AAGAAGCCTT TCCTGAAGTA        5220

GAAGTGATTG CAGGAACTGC AACAGCAGGG ATTCCACACG GAGCCATTAT TGCTGATAAG        5280

ATGGACTTGC CTTTTGCCTA CATCCGTAGT AAACCAAAAG ACCACGGAGC TGGTAATCAA        5340

ATCGAAGGTC GCGTAGCTCA AGGTCAAAAA ATGGTAGTGG TTGAAGACCT TATTTCAACG        5400

GGTGGTTCAG TTCTTGAAGC TGTAGCAGCA GCCAAGCGAG AAGGAGCAGA TGTACTTGGA        5460

GTTGTAGCGA TTTTCAGCTA CCAATTGCCA AAAGCAGATA AGAACTTTGC AGATGCTGGT        5520

GTTAAACTTG TGACGCTTTC AAACTATAGC GAGCTTATCC ATCTAGCCCA AGAAGAAGGT        5580

TACATCACGC CAGAGGGCCT TGATCTTCTA AAACGCTTTA AAGAAGACCA AGAAAATTGG        5640

CAAGAAGGTT AGGTCAGTAA GATAAAGAGA GACGAGGCTA CCGAGTCTCT TTTACCATTT        5700

TATTTAAAAT ATGACAG                                                        5717
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(2) INFORMATION FOR SEQ ID NO: 103:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5558 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

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CCTGGACTTT CTAAAATGAA ATCTTGCGAC CTGGATCAAG CCCTTCATGA GCATTTTTCA          60

GAAGAAGAAT TAGCTGGTCA CTTTCATGTC CTTCTATGGA CTTTTTTTAC AATGGCATTG         120

CTATCACACC CAATACCTAT CTAAGCGCCT GGTTCGTAAA CTTTATTGCA GCTCTTCCTC         180

TAAATTTCCT AATTGTTGAA CCAATTGCCC GTTTTATACT AAGTTCTTTT CAGAAACCAT         240

TTACTGGGGA AGAAGTTGAA GATTTTCAAG ATGATGATGA AATCCCAACT ATTATCTAAG         300

CCAGTTCTGT AAACTACTAA TATTTGAAAT CCACTTCCTT TTAGGGTGCA ATGGTTATAA         360

ATGAATTTTT GAGAGGATCA GAATGAAAAA ACTAGCAACC CTTCTTTTAC TGTCTACTGT         420

AGCCCTAGCT GGGTGTAGCA GCGTCCAACG CAGTCTGCGT GGTGATGATT ATGTTGATTC         480

CAGTCTTGCT GCTGAAGAAA GTTCCAAAGT AGCTGCCCAA TCTGCCAAGG AGTTAAACGA         540

TGCTTTAACA AACGAAAACG CCAATTTCCC ACAACTATCT AAGGAAGTTG CTGAAGATGA         600

AGCCGAAGTG ATTTTCCACA CAAGCCAAGG TGATATTCGC ATTAAACTCT TCCCTAAACT         660

CGCTCCTCTA GCGGTTGAAA ATTTCCTCAC TCACGCCAAA GAAGGCTACT ATAACGGTAT         720

TACCTTCCAC CGTGTCATCG ATGGCTTTAT GGTCCAAACT GGAGATCCAA AAGGGGACGG         780

TACAGGTGGT CAGTCCATCT GGCATGACAA GGATAAGACT AAAGACAAAG GAACTGGTTT         840
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771

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CAAGAACGAG ATTACTCCTT ATTTGTATAA CATCCGTGGT GCTCTTGCTA TGGCTAATAC     900

TGGTCAACCA AACACCAATG GCAGCCAGTT CTTCATCAAC CAAAACTCTA CAGATACCTC     960

TTCTAAACTC CCTACAAGCA AGTATCCACA GAAAATTATT GAAGCCTACA AAGAAGGTGG    1020

AAACCCTAGT CTAGATGGCA AACACCCAGT CTTTGGTCAA GTGATTGACG GTATGGATGT    1080

TGTGGATAAG ATTGCTAAGG CCGAAAAAGA TGAAAAAGAC AAGCCAACTA CTGCTATCAC    1140

AATCGACAGC ATCGAAGTGG TGAAAGACTA CGATTTTAAA TCTTAAAAAC CAAAAAAATA    1200

CAGTATCCAC ATTCGGTACT GTATTTCTTT TACTCTCATT CTTAAGTTAA ATTATTAAAA    1260

TCCCATATTT GGTCTATCCA GCCTTCATAA AAGTCTGGCT CGTGGCAGAC CATAAGGATA    1320

GATCCCCTAT ATTCTTTGAG AGCGCGTTTG AGCTCATCCT TTGCATCCAC ATCCAAATGG    1380

TTGGTCGGCT CGTCCAGCAC TAAAACGTTG TTTTCACGAT TCATCAAGAG ACAGAAACGA    1440

ACCTTGGCTT GCTCTCCCCC TGATAATACT TGAATCTGGC TTTCAATATG TTTGGTTGTC    1500

AAACCACAAC GGGCAAGGGC TGCACGGACT TCTGCTTGAT TAAGGGCAGG AAAGGCATTC    1560

CAGACAGCTT CAAGAGGAGT TTGGCGATTA CCGCCTTCTA CTTCCTGCTC AAAATAACCA    1620

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CTCTTCAAGA GAGTTGTTTT TCCAATACCA TTAGCACCAA TAATCGCAAC CTTTTGATTG    1740

CGTTCGAAGG TAAGATTTAA AGGCTTAGTA AGAGGACGGT CGTAACCAAT TTGCAAGTTC    1800

TTGGCTTGGA AGATAAAGCG CCCTGGTGTA CGAGCTGGTT TGAAATCAAA GGATGGTTTT    1860

GGTTTCTCAC TTTGGAGTTC GATAATATCC ATCTTATCCA ATTTCTTTTG ACGAGACATA    1920

GCCATATTAC GAGTTGCAAC ACGGGCTTTA TTACGAGCCA CAAAGTCCTT GAGGTCTGCA    1980

ATCTCTTTCT GCTGGCGTTC GTAGGCTGCC TCTAGCTGAG ATTTCTTCAT AGCATAAACT    2040

TCTTGGAACT GGTAGTAGTC ACCAGAGTAA CGCGTCAGCT GTTGATTTTC CACATGATAG    2100

ACAATATTAA TAACGTCATT GAGGAATGGA ATATCGTGCG AAATGAGAAC AAAGGCATTC    2160

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GGCTCGTCCA ACAGCAAGAT ATCAGGCTTT TCAAGGAGAA GTTTTGCCAA AAGCACCTTG    2280

GTTCTTTGCC CACCTGACAA AGAAGTTACA TCCGTATCCA TGCCAAAGTC CATAACACCA    2340

AGAGCACGCG CTACTTCGTC AATCTTAGCA TCCAAGGTAT AGAAATCACG ACTCTCCAGA    2400

CGGTCTTGAA GTTCTCCTAC TTCTTCCATG AGAGCATCAA CATCCGCGCC GTCTTCAGCC    2460

ATTTTCATAT AGAGGTCATT GATACGAGCT TCAGCTTTGA AAAGCTCATC AAAAGCCGTA    2520

CGGAGAACAT CACGCACCGA CTGTCTTTCA GCAAGGACAG AGTGCTGATC CAAGTAACCA    2580
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772

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GCCGTCACAT ATTTGGACCA CTCAACCTTT CCTTCATCTG GCAGCATTTT ACCAGTCACG    2640

ATACTCATAA AGGTTGATTT TCCTTCACCA TTGGCACCGA CCAGGCCGAT ATGTTCTCCC    2700

TTGAGGAGAC GGAAGGACAC ATCTTCAAAA ATTGCACGGT CACCAAAACC GTGACTCAGA    2760

TTTTTAACTT CTAAAATACT CATTTTAATT CCTTACCTTG TTTTTATGTA ATCGTTTATA    2820

AAGGAGCCAA GCCAGATAGC CACCCAAAGT GTTGGTCCAC AAATCATCAA TCTCAAAGAC    2880

GCGATTGAAA TCAAAGAAAA AGTCCAAGAT TAATTGCGTA CACTCGATTC CAAGACTCAC    2940

AAGAAAACTA AAAAGAAGGA CCTTTTTTGT TTTCCGCAAA TTTGGAAATA GATAAAGGAG    3000

TTGGAAAATC AGAGGAAAAA ACAAGAAGAC ATTGAGGATA TTTTGTAAAA AAATCCAACA    3060

TAATTGTCCA ATGTCACTCA CTTCGCCCAG TTTCCAGAGA GAATTGAAAG GAGTCAAAAG    3120

AAAAACCAGG CGTCCAAGAT GCTGAATACC TGGAGTTCCC ACTCCCACGG TAGATTGTTC    3180

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TCTTGACGAA CCACACAGTT GACCCCTTTT TTCTTAAGCG TATCATAGAA AGCCAACACG    3420

CACTCTTTGG GACTACGGCT ATATTGGTCA TGCTCACTAA CTGGGTTATA AGGAATCAAG    3480

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ACACCGTCGT TGACTTCATT AAGCATGATA TATTCAAAGG TTACACGACG GTTTGTTGTC    3600

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TCCTGACCAC GCTCATCAAA GTATTTCTGA ACCAGCATGA TTTGCGCTAC GATTTCACCG    3960

TTATTGAGGT CACGTTGCTT CTTAATCAAA CCAGAGGCAC AGAAGGTACA ACCGATATTA    4020

CAGCCGACCT GAGTGGTCAC ACAGACAGAT AAACCATAGT GTTGACGCAT GAGTACAGTC    4080

TCAATTAACA TACCGTCGGG CAATTCAAAG AGATATTTGA CTGTACCATC AGCAGACTCT    4140

TGCACAATAC GTTGTTTCAA GGGATTGACC ACAAACTGGT CATTGAGCTT AGCAATCAAA    4200

TCCTTGGAAA GGTTGGTCAT TTCTTCAAAT GACTGCACAC GTTTACGGTA GAGCCATTCC    4260

CAGATTTGAT CTGCACGGAA TTTCTTTTCT CCCTGCTCCA ATACCCATTC CTGCATGGTT    4320

TGATGTACCA AACTATGAAT TGAGGGTTTC ATTTCTTCTC CTTATTCTCT ACTCACTTCT    4380
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GACGAATGAC AAAATGACGT TGTCCCTTGT CGTCTTTCTG ACGACGTCTA TTTTTCTTAT      4440

CTGCATTCGA CTTTCGTTTA GTTTGAGTCG GTTTCTTTCC TTTTCTAGAA GGTGTTTCTT      4500

CTTCCGTCTT ACGCATTTTC TTGTCAAATG ATGCTCGCTT AGGGGCTTCA TTTTCTAAGA      4560

CAAAATAGGC ACAACCATAA CTACAATACT CTAAAAGGTA GTCTTGTAAA CGACTGATTT      4620

TTTCAAGTTT TTCTTCTGTT CGGTCATCCT TGTAAAAACC TCGTAGGCGA AGCTGTTCGT      4680

TGCTCCAGTC CCCCACGATA TAATCAAACT TGGTTAATAC TTCTGAAAAA CGCTGATTAA      4740

AAGTCGTCAC ATCAAAGGCA TCCTTGATAT TTTCAACCAA GGAAAAAGCT ATCCCTTCCG      4800

TTTCGACCTT GTCCCCGTGT AAATGGAACT CCGGACCAGG AAACTTGTTA TAGTTGTATA      4860

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TCTACCATAA TTTCTAGCAG TTAGCACGTT TCTCATAAAA ATGAAAAAAG TCTGACGATT      4980

TTGTCAGACC AGAATCTTAT AACCTAAAAA GAGAAGAACA ATTCTTCCCT CCAACTATCA      5040

TTATTTAGCA GCTGCGTACA ATTCATCTAC TTTATTCCAG TTGATTACTG AAAAGAAAGC      5100

TTTGATGTAG TCAGGACGCA CGTTGCGGTA TTTCACGTAG TAAGCATGTT CCCAAACGTC      5160

CAAGCCCAAG ATTGGTTTTT TACCTTCTGA GATTGGTGTG TCTTGGTTTG CTGTTGAAGT      5220

CACTTCAAGT TTCCCTTCTT TGTTGACAAC CAACCATGCC CAACCTGAAC CAAAACGAGT      5280

TGTTGCTGCT GCAGTGAAGG CTGCTTGGAA TTCTTCAAAT GAACCAAATG TTGCATCGAT      5340

TGCTGCTGCC AGTTCTGCTG AAGGAGCTGT TTTCTCGGGA GTCATCAATT CCCAGAAAAG      5400

AGCGTGGTTC AAGTGTCCGC CACCATTGTT GATAAGTGCT TGACGGATAT CAGCTGGGAT      5460

AGATTCTACA TCAGCAAGCA AGGCTTCAAG GTCTTCACCG ATTTCAGGGT GTTTTTCTAA      5520

AGCTGCATTG GCATTGTTGA CATAAGTTTG ATGGTGTT                             5558
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(2) INFORMATION FOR SEQ ID NO: 104:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6735 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

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GGAATTGTAA ATATCATATT GTTTTTGCAC CCAAATATCG TCGTCAAATC ATTTATGGCA        60

GATACAAAGC TAGTATCGGA AGAATCATAC GTGACTTATG TGAGCGTAAG GGTGTAATAA       120

TCCATGAAGC GAATGCTTGT TCAGACCATA TTCACATGCT TATCAGTATT CCTCCGAAAC       180
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774

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TTAGTGTTTC GTCCTTTATG GGCTATTTAA AGGGCAAGAG CAGTTTGATG ATTTTTGATA    240

AGCATGCGAA TTTAAAATAC AAATATGGCA ATCGCAAGTT TTGGTGTAGA GGCTATTATG    300

TAGATACGGT AGGCCGTAAT CAGAAAGTGA TAGCTGAATA TATTCAGAAT CAATTACAAG    360

AAGACAGAGT AGCAGACCAG CTCACGTTAT TCGAGTCAGT AGATCCGTTT ACTGGCGAAA    420

TAAATAAGAG GAAGTAACTA AGGTGCTTTA GCACCTGCTC GGGAAAGTGG TGCGCGAGGA    480

AGCTATTTCG GTGGGCCTTT GGCCCTGGCC GGTAGAAGCG GCTTATAGCC GCAGAACAAA    540

CCACCAGTTC ACACTGGTGG TTTTGATTTA AAAAACTTGA TACATAAAAA TAAAAGTCTA    600

TATAAAGGAT GGTAAAATTC CTGTTGTCCG ATTTGGACAA TATCCTAAAT AGTTACAATA    660

TATGGTCTAT ACTTTTTCTT AGGAGAAAGC TAGATGTACA GACGTTTGAG AGATTTGAGG    720

GAGGATCATG ATCTGCCCCA AAAGCAAATA GCTACAATAC TTTCGTTTAC AAATTCAGCT    780

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GATTTCTATG ACGTCAGTAC AGACTATTTA TTGGGATTAA CTGATTTTCC TGATAAAATT    900

CGCTTTAGAA AATAATCTCC TCAATTTCAT AGAGTTTGAA AATGAGTGAG ATTTTTTATT    960

TGCCCTTTGA CAACTGAATA GCCTAAAATG GTACTTTCCT CATTTGTGGA GCAAATTTGA   1020

ATGGCTCGCC ATGATAAGAG CGATTTTAAA ATCATCAATA AAATAGAGCG ATACTTTATA   1080

TGCCATGATA CAAATGATAT ACAATGATAC TTCTGACCGT TCAGCCTGCC AACGTAAAAG   1140

AGCAGCAAGT GAAATTCTTA TGATGACTTC ATCAGTCATG CCACGTTGAA TGTGTGAGTT   1200

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AATAGACTTT CTGCGAAACA AAAATATAAT ACAATAAAAC TATGAATGAT GAAGCAAGTA   1380

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GATTCCCTAC TTGCTTTTAT CTATTTTGGG CTTGATTGTG GTCTATTCGA CCACCAGTGC   1920

TATTTTAATT GAAGAAGGCA AGAGCGCCTT GCAGTTGGTT CGAAACCAAG GAATCTTTTG   1980
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GATTGTTAGT TTGATACTGA TTGCCTTAAT TTATAAATTG AGACTAGATT TTTTGAGAAA    2040

TGAGCGACTA ATCATTTTAG TTATATTAAT AGAAATGCTT TTATTGTTCT TGGCTCGTTT    2100

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GCCAGCTGAG TACTTAAAAA TCATTATTAT TTGGTATTTA GCTCACCGAT TCTCCAAACA    2220

GCAAGAAGAA ATAGCTACTT ATGATTTTCA AGTTTTGACT CAAAATCAAT GGCTTCCCCG    2280

TGCTTTTAAT GATTGGCGAT TCGTTCTCCT AGTTCTGATT GGAAGTTTGG GAATTTTCCC    2340

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TGACTAACGA AATCACGAAT GCTATGGAAT ATTATAACAG CTCCTTTTTG AAAGCTGTAC    3720
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776

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CTCATTTGAC GACGGAGTAT AAGCGCTTAG CGCAAGCGCA TGGTCTGAAT TTAAAACAGG      3780

CTAAACCAAT CACCATGGGT ATGTGGATAG GTGGTGACCG TGATGGAAAT CCATTTGTTA      3840

CAGCAAAGAC CTTGAAGCAG TCTGCACTCA CTCAGTGTGA AGTCATCATG AACTACTATG      3900

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GCAAGCAAGT CAGAGAAATG GCTCGTCAAT CCAAGGATAA CTCGATTTAC CGCGAAAAAG      4020

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GACAAGACTC TAGCGTCTAT GAAGCCTGTG TGGCAGAACT CTTGAAATCA GCAGGAATTC      4320

ATTCTCGTTA TAGCGAGTTG AGCGAAGAAG AAAAGTGTGA CCTTCTCTTG AAAGAATTAG      4380

AAGAAGATCC CCGAATTCTT TCTGCGACTC ACGCAGAAAA ATCAGAATTA TTAGCAAAAG      4440

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TAGTGGACCG TAGTTACGAT ATCTACCGTG ATTTGGTCTT TGGTAATGAG CATTTCTATG      5160

ATTATTTCTT CGAGTCAAGT CCAATCAAGG CTATTTCAAG TTTTAATATT GGTTCTCGTC      5220

CAGCCGCTCG TAAGACTATT ACTGAAATCG GTGGTTTGCG TGCCATCCCT TGGGTATTCT      5280

CATGGTCACA GAGTCGTGTT ATGTTCCCTG GATGGTACGG GGTTGGTTCA AGCTTCAAGG      5340

AATTTATCAA TAAAAATCCA GAGAATATTG CTATCTTACG AGATATGTAC CAAAAATTGGC      5400

CTTTCTTCCA ATCGCTTCTT TCAAATGTTG ATATGGTTTT GTCAAAATCA AATATGAATA      5460

TTGCTTTTGA ATATGCTAAA CTTTGTGAAG ACGAGCAAGT TAAGGCCATC TATGAGACTA      5520
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777

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TTTTAAATGA ATGGCAAGTT ACTAAGAACG TTATCTTGGC TATTGAAGGA CATGACGAAC          5580

TCTTAGCTGA CAATCCATAT CTAAAAGCTA GTCTGGATTA CCGTATGCCT TACTTTAATA          5640

TTCTCAACTA TATTCAGTTG GAGTTGATTA AACGCCAACG TCGTGGAGAA TTGTCCAGTG          5700

ATCAAGAACG ATTGATTCAT ATCACCATCA ACGGAATTGC GACAGGATTG CGTAATTCAG          5760

GTTGATAATT TTCAAGAGTG AATGCTAAAA GTGAATATCA AAAAAATTCT AATAGACTAT          5820

TGACAAGTAG TTTAAAAATG ATATAATTTA ACCATTCAGA AAAGTAATCA TACAAACTTT          5880

TTAGAGAGTC TGTGGTAGCT GAAAACAGAT AAGTGGCAAT GATGAAAATT GGGCTGAATG          5940

CTATTTAGAA TTTGAAATTA TAAAAATTCG GTAAGCACAC CTTACAGTGC ATCTCGTTAT          6000

TGCGAGACTG AGCGATAGGG AAATTCCCTA TAATTGAGGT GGTACCGCGC ATCGACGTCC          6060

TCACACAAGT TTTTTGTGTG AGGATTTTTT TGATGGAGGT TAGTATGGAA AGAAAACGAT          6120

GGCGTCGCTT GTTTAGATAA GTGAAATATG TTAAAGGAAA TAAAAAGGAG AAACAGAATG          6180

AAAAATAAAC GTTTAATTGG AATTATTGCT GCATTAGCAG TCTTAGTAGC AGGAAGCTTG          6240

ATTTATTCTT CAATGAATAA ATCAGAAGCT CAGAATAATA AGGATGAGAA GAAAATAACC          6300

AAGATTGGTG TGCTTCAATT TGTGAGCCAT CCATCCCTTG ATTTGATTTA TAAAGGGATC          6360

CAAGATGGAC TTGCAGAAGA AGGATATAAA GATGATCAAG TTAAAATTGA TTTTATGAAC          6420

TCAGAAGGTG ACCAAAGTAA GGTTGCGACA ATGAGTAAAC AATTGGTTGC AAATGGGAAT          6480

GACCTTGTGG TTGGTATCGC AACACCAGCA GCCCAAGGGT TGGCTAGTGC AACAAAAGAC          6540

CTACCGGTTA TCATGGCCGC TATTACAGAC CCAATTGGTG CTAACTTGGT TAAAGATTTG          6600

AAAAAACCAG GTGGCAACGT TACAGGGGTA TCTGACCACA ATCCAGCTCA ACAACAAGTT          6660

GAACTCATCA AGGCTCTGAC ACCGAATGTG AAAACAATCG GAGCTCTTTA CTCAAGTAGC          6720

GAAGACAATT CAAAA                                                           6735
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(2) INFORMATION FOR SEQ ID NO: 105:

         (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 6516 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear

         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

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CTAGAGGATC CCAGCAGGTA AATTGGCTTC AGCTGGCAAA AAAGTTGCCC TCGTTGAACG          60

CAGCAAGGCT ATGTACGGTG GAACTTGTAT CAACATTGGT TGTATCCCAA CTAAAACCTT          120
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778

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GCTAGTTGCT GCTGAAAAGG ACTTGTCTTT TGAAGAAGTC ATTGCTACTA AAAACACGAT    180

CACTGGTCGC CTCAACGGTA AAAACTATGC GACTGTTGCT GGTACAGGCG TAGATATCTT    240

TGATGCGGAA GCTCACTTCC TTTCAAATAA AGTCATCGAA ATCCAAGCTG GTGATGAAAA    300

GAAAGAACTG ACTGCTGAAA CAATCGTCAT CAACACTGGT GCTGTTTCAA ACGTCTTGCC    360

AATCCCTGGA CTTGCTACAA GCAAAAACAT CTTTGACTCA ACAGGTATCC AAAGCTTGGA    420

CAAATTACCT GAAAAACTTG GAATCCTTGG TGGCGGAAAT ATCGGTCTTG AATTTGCCGG    480

CCTTTACAAC AAACTTGGAA GCAAGGTCAC AGTCCTAGAT GCCTTGGATA CATTCCTACC    540

TCGTGCAGAA CCTTCCATCG CAGCTCTTGC TAAACAATAC ATGGAAGAAG ATGGCATTGA    600

ATTGCTTCAA AATATCCATA CTACTGAAAT CAAAAACGAT GGTGACCAAG TGCTTGTCGT    660

AACTGAAGAC GAAACTTACC GTTTCGACGC CCTTCTCTAC GCAACTGGAC GCAAACCAAA    720

TGTAGAACCA CTTCAACTTG AAAATACAGA TATTGAACTA ACTGAACGTG GTGCTATTAA    780

AGTAGACAAA CACTGTCAAA CAAACGTTCC TGGTGTCTTT GCAGTTGGAG ATGTCAACGG    840

TGGCCTTCAA TTTACTTACA TTTCACTTGA TGACTTCCGT GTTGTTTACA GCTACCTTGC    900

TGGAGATGGC AGCTATACAC TTGAAGACCG TCTCAATGTG CCAAATACTA TGTTCATCAC    960

ACCTGCACTT TCACAAGTTG GTTTGACTGA AAGCCAAGCA GCTGATTTGA AACTTCCATA   1020

CGCTGTTAAG GAAATCCCCG TTGCAGCAAT GCCTCGTGGT CACGTAAATG GAGACCTTCG   1080

CGGTGCCTTC AAAGCTGTTG TCAATACTGA AACAAAAGAA ATTCTTGGAG CAAGCATCTT   1140

CTCAGAAGGT TCTCAAGAAA TCATCAACAT CATCACTGTT GCTATGGACA ACAAGATTCC   1200

TTACACTTAC TTCACAAAAC AAATCTTCAC TCACCCAACC TTGGCTGAGA ACTTGAATGA   1260

CTTGTTTGCG ATTTAAGTTG AGATTTAATC GTATCGAACA GCCCTCTTTG GGCTGTTTTT   1320

ACTTCTGCGG AATCTCAAAT CTGTCTTTCT CCTCTTTTAT GATATAAATAG AAACATGAAC   1380

TTAAAAACTA CTTTGGGCCT TCTTGCTGGG CGTTCTTCCC ACTTCGTTTT AAGCCGTCTT   1440

GGACGTGGAA GTACGCTCCC AGGGAAAGTC GCCCTTCAAT TTGATAAAGA TATTTTACAA   1500

AACCTAGCTA AGAACTACGA GATTGTCGTT GTCACTGGAA CAAATGGAAA AACCCTGACA   1560

ACTGCCCTCA CTGTCGGCAT TTTAAAAGAG GTTTATGGTC AAGTTCTAAC CAACCCAAGC   1620

GGTGCCAACA TGATTACAGG GATTGCAACA ACCTTCCTAA CAGCCAAATC TTCTAAAACT   1680

GGGAAAAATA TTGCCGTCCT CGAAATTGAC GAAGCCAGTC TATCTCGTAT CTGTGACTAT   1740

ATCCAGCCTA GTCTTTTTGT CATTACTAAT ATCTTCCGTG ACCAGATGGA CCGTTTCGGT   1800

GAAATCTATA CTACCTATAA CATGATATTG GATGCCATTC GGAAAGTTCC AACTGCTACT   1860

GTTCTCCTTA ACGGAGACAG TCCACTTTTC TACAAGCCAA CTATTCCAAA CCCTATAGAG   1920
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779

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TATTTTGGTT TTGACTTGGA AAAGGGACCA GCCCAACTGG CTCACTACAA TACCGAAGGG    1980

ATTCTCTGTC CTGACTGCCA AGGCATCCTC AAATATGAGC ATAATACCTA TGCAAACTTG    2040

GGTGCCTATA TCTGTGAAGG TTGTGGATGT AAACGTCCTG ATCTCGACTA TCGTTTGACA    2100

AAACTGGTTG AGTTGACCAA CAATCGCTCT CGCTTTGTCA TAGACGGCCA AGAATACGGT    2160

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TCTGAAATCG CTCGTCGCCT CCGAGTGACT GGCTATCCAG CTGAGAAAAT CACTGAAACG    2580

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CTGGCAACTT ATACTGCCAT GCTGGAATTT CGTGAACTGC TGGCTAGTCG TCAGATTGTT    2700

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CATCCTCATG CTCAAGTATG TGGCTGAAAA ACTGGGAGCC CATGTGACCG TTGACATCGT    2880

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AGACTTTGAA CAAAGTATCA TTGCAGACGA CCTACCTGCT AAAAAAGAGA GCATTGACAA    3000

CTACATCCAA AACGACGGTG TAGTTCTGGC TATCTGCGGT GGTTTCCAAC TATTGGGTCA    3060

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GCTCAACCAG ACCAATAACC GTTTTATCGG TGACATCAAG ATTCACAATG AAGATTTCGA    3180

TGAAACCTAC TATGGATTTG AAAATCACCA AGGTCGTACC TTCCTCTCTG ATGACCAAAA    3240

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CCCTGCCTAT GAGGACATTC TCAGCCAAGA AATCGCTGAA GAGTACAGTG ACGTCAAAAG    3480

CAAGGCTGAC TTTTCTTAAA CAAAGGAAAA TGATATCAAA GAACTCCGTT ATCTTGTCGG    3540

AGTTTTTTGT CTTTTCTTTT ACCCTTCTCC CTTGCATTTT CTCTCATTTT TTGCCAAAAT    3600

AGAGGGGTAG AAAGAAGGTA GCATATGTCT AAATTACAAC AAATCCTAAC ATATCTTGAA    3660
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780

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TCAGAAAAAC TAGACGTCGC TGTCGTATCT GACCCCGTCA CAATCAATTA CCTCACTGGT        3720

TTTTACAGTG ATCCCCATGA ACGCCAAATG TTCCTCTTTG TCCTAGCAGA TCAGGAACCT        3780

CTCCTCTTTG TCCCAGCTCT TGAAGTAGAA CGTGCAAGTA GCACCGTTTC CTTCCCAGTA        3840

GTGGGCTATG TCGATTCTGA AAATCCATGG CAAAAAATCA AACATGCTCT TCCACAACTT        3900

GACTTCAAAC GTGTCGCTGT TGAGTTTGAC AATCTCATCT TGACCAAATA CCATGGTTTG        3960

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CTCATCAAAT CAGCTGATGA AGTGCAAAAA ATGATGGTTG CAGGTCTTTA TGCTGACAAG        4080

GCTGTTCATG TTGGTTTTGA CAATATTTCT CTTGATAAGA CTGAGACAGA TATCATCGCA        4140

CAAATCGACT TTGCCATGAA ACGTGAAGGT TATGAAATGA GCTTTGATAC CATGGTCTTG        4200

ACTGGTGATA ATGCTGCGAA TCCACACGGC ATTCCAGCAG CTAATAAGGT TGAAAATGAT        4260

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ACAGTCGCTG TCGGCAAACC AGACCAATTC AAGAAAGATA TTTACAACTT GACTCTTGAA        4380

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TCTAGGGGCT ATTTTATTGT CATTTTTCTG CTATTATGCT AAAGAAATTG GCTGCAATAA        4800

TCTAACCCTA AGTGTCTGGA ATGATAACGA GGGTGCTCTC CGCTTTTATC AAAGACAAGG        4860

GATGAAACCC CAAGAAACAA CAATGGAAAT GATAATTGAT TAAGAAGTCA TCTATCAAAA        4920

GATGTTAGAA AAAGTTCAAT TTCACTAGAA AATGAGGAAA ATCTCCCCAC AATAAAACGC        4980

ATAGTATCAG GTATTGTGTA CTGACCCCAA ACAGTTAGAC AATTAATTTA TCCGAAGGAT        5040

TTAGTTCTGT ACTGCACAGG ACTAAGTCCT TTTAGTTTTA CCTTAATTCG TTTGTTGTTG        5100

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TGATAAGAAT CGTGTTGGTA TTGCCAGCCT TGGTCACTAT GGAGAATCGT ATTCTCGTAG        5340

TGCTTCTCTT TGAATGCCTG TTCCAACATT GTTTGTACTT ATTCTAAATT AGGCGAACAA        5400

GAAAGATTAA AAGCAATAAT TTCGCTGTTA AAGCCATCTA AAACTGGTGA TAAGTAAAGC        5460
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781

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TTTTGAGTAC TTGCTGGAAT GGCAAATTCA GTCACATCTG TGTAGCACTT TTCCATTGTT    5520

TTAGAGCCTT CAAATTGGGC TTGAATGAGA TTCTCTGCCT TCTTACCAAC GTCTCCTTTA    5580

TGAGAAGAAT ATTTTCGTTT CTTTCGCATT TTAGCTTGTA AATTGAGTAC TTTCATCAAG    5640

CCTTGAACTC TTTTATGATT TACCAGATAA CCACGATTTC TTAGTTCTAA ATGAACCCGG    5700

CGATAAGCAT AATTTCCCTT GTGTTCGATA AAGATGGATT GAATTTCAGT TTTAAGCTCT    5760

TGGTCTTTAT CTGTTTTGTC TAGCTGTTTC AAGTGATAGT AGTAGGTCCA ACGAGCTAGT    5820

TTAATGGCTT CTAGAAGAAG ATCTAACGAA AACTCAGTCA TTAATTCTTG AACAATTTCT    5880

GTCTTTCTTC TTTCTCTTTT TCCTCCTTCA ATCGGAGTTC TCTTAACTTT TTTAGGATGG    5940

CATTCTCCGC TCTCAGGTAC TCTCCCTCTT GTTTTCTCAA CAATAGTATA CCCGTTTTTC    6000

CTGTATTGTG CTAGCCAGTT AAGAAGTATC GTACGACTTG GGAGACCGTA TTCAAGAGAA    6060

ACTCTATCTT TAGTCCAGCC TTCATGTCAG ACTTTATTAA CCCCAATTAT TCACCCCAAA    6120

TCTAAAAACC ATCCAGAATC CTTGCCTTAG CTTAGATCCT GGATGGTTTC TTTTTTCACC    6180

CAATGGGTGT TTTTTACTAG ACAAAAAAGA GTTTCCCCTT TATGGTATAA GTGTAGAAAA    6240

AAACACAAAA AGAAAGGAAA CTCACATGAA CAGTTTACCA AATCATCACT TCCAAAACAA    6300

GTCTTTTTAC CAACTATCTT TCGATGGAGG TCATTTAACC CAGTATGGTG GTCTTATCTT    6360

TTTTCAGGAA CTTTTTTTCCC AGTTGAAACT AAAAGAGCGG ATTTCTAAGT ATTTAGTAAC    6420

GAATGAmCAA CGCCGCTACT GTCGTTATTC GGATTCAGAT ATCCwTGTCC AGTTCCTCTT    6480

TCAACTGTTA ACAGGTTATG GAACGGAATA TGCTTG                             6516
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(2) INFORMATION FOR SEQ ID NO: 106:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 14654 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

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TTTTCAACCC ATATCGTGGC TCCTGAATAC TACTTACTGA CAACTATGCT ATCAGAGACT      60

TCTCTACTTG TTTTCTATAT CATTTTCATC CATAGAAAAC AACTCATCCA CTTGGGACAT     120

ATCTTTAGCT ATACTGTTCG ATACTCTCTC TTTTCACTTT CCTTTGTAGC AATTTATTTC     180

CTGATTAATT TCGTGTATCC TGTAGATATG GTCATTAATT TGCCATTTTT GATTAATACT     240

GGTTTGATTG TCTTGCTATC AGCTATCTCT TATATTAGTC TACTTGTCTT CACAAAAGAT     300
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782

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AGCATTTTCT ATGAATTTTT AAACCATGTC CTAGCCTTAA AAAATAAATT TAAAAAATCA        360

TAGGAGTTTA AAATGAAACA ACTAACCGTT GAAGATGCCA AACAAATTGA ATTAGAAATT        420

TTGGATTATA TTGATACTCT CTGTAAAAAG CACAATATCA ACTATATTAT TAACTACGGT        480

ACTCTGATTG GGGCGGTTCG ACATGAGGGC TTTATCCCTT GGGACGACGA TATTGATCTG        540

TCCATGCCTA GAGAAGACTA CCAACGATTT ATTAACATTT TTCAAAAGGA AAAAAGCAAG        600

TATAAGCTCC TATCCTTAGA AACTGATAAG AACTACTTTA ACAACTTTAT CAAGATAACC        660

GACAGTACGA CTAAAATTAT TGATACTCGA AATACAAAAA CCTATGAGTC TGGTATCTTT        720

ATCGATATTT TCCCTATAGA TCGCTTTGAT GATCCTAAGG TCATTGATAC TTGTTATAAA        780

CTGGAAAGCT TCAAACTGCT GTCTTTCAGT AAACATAAAA ATATTGTCTA TAAGGATAGC        840

CTTTTAAAAG ATTGGATACG AACAGCCTTC TGGTTACTCC TTCGACCGGT TTCTCCTCGT        900

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ATGGCTTTTA TCCCTTCAAA ATTTAAGGAA AAGGAAGTCT TCCCAAGTGG TACCTTTGAT       1020

AAAACAATCG ATTTACCCTT TGAGAATTTA AGCCTTCCTG CACCTGAAAA ATTTGATACT       1080

ATTTTGACAC AATTTTATGG AGATTATATG ACCCTACCAC CAGAAGAAAA ACGCTTCTAC       1140

AGTCATGAAT TTCACGCTTA TAAATTGGAG GATTAGGATG CAATATTTAG AAAAAAAAGA       1200

AATTAAAGAA ATTCAACTAG CCCTGCTGGA CTATATTGAT GAGACTTGTA AGAAACATGA       1260

TATTCCTTAT TTTCTCAGTT ATGGAACCAT GCTTGGAGCC ATCCGCCACA AAGGTATGAT       1320

TCCTTGGGAT GATGATATTG ATATTTCCCT TTATCGTGAG GATTATGAGC GTTTACTGAA       1380

GATTATTGAA GAAGAAAATC ACCCTCGCTA CAAGGTTCTT TCCTACGATA CATCTTCTTG       1440

GTACTTCCAT AATTTCGCAT CGATTTTGGA CACTTCTACT GTTATAGAAG ACCATGTTAA       1500

GTACAAGCGT CATGATACCA GCCTTTTCAT CGATGTCTTC CCAATTGATC GATTTACAGA       1560

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GACACCACCA TCAAAAGAAA TGCAAGAGTG GTATAGTCAT AGCATTAAAG CTTATCGCAA       1980

AAACTGATTG AGGGGGATTA TACAAACTAC TAAGATAGAG GTTATTCAAA AACATAATTT       2040

TAGTAGAAAA TGAAATACAT ATTCCCACAA TAAAACGCAT CATATCAAGG TTTTTGAAAA       2100
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783

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ACCTTGATAT GATGCGTTTT ATAATTTTAA AGACTTTTTT CTATAGTAGA TTGAAATAAG    2160

ATGCGAACAA ATCAATTAGA AAATTCAAAT TAATTTATAG AAATATTTTA GTATTCCTGT    2220

GTACTGTTCT AAATTCAGTC TGCTATATCT TATTTTTCTA TTTAAATCGC TTCTGTAACA    2280

AAGCTACGAC TTTCAAGTAC CTTAAGCATG GCATTAGCTG TATCTAGCGC TGTGAAGAGG    2340

GGCACCCCGT GTTCAATGGC TGAACGACGA ATTTGCTCAC CATCTTCGTC AGCAGTTCGT    2400

TTTGTTCCTA CTGTGTTAAT GATAGCTTGA ATTCTTCCTT TGCGTACAAA ACTTGGGATA    2460

TCCTTATCGT CATCACCAAT CTTACCAACA GGTTGGGCTT GCAAGCCATG ACTAGCAAAG    2520

AAGGCTGCTG TCCCTTCTGT CGCAAGGATT CCATAACCAA TGTTTTGGAA ACGACGAGCC    2580

AAGTTCAAGG CTTCTTCTTT GGCATCATCA GCGATGGTAA AGACGACATT ACCAAAAGTT    2640

GGCAAGTGTA GATAAGAAGC TTCAAAGGCT TTATAGAGAG CTTTTTCCAA AGTAGCATCA    2700

GAACCCATAA CTTCACCTGT TGACTTCATT TCAGGACCGA GCAAGCTGTC TACCTTAGCT    2760

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TGAACGATAA CTCCCTTTGG TTGTTCCAAG TCAATGACGT TCATAACATC TTCGAATGTC    3600

AATGGCTCAA AGTAAAGCTT ATCTGATACA GAGAAGTCTG TTGAAACGGT CTCTGGGTTT    3660

GAGTTCATGA TGATAGCTTC ATAACCAGCT GCCTGGATAG CCTTAACAGA GTGAACGGTT    3720

GCGTAGTCAA ACTCAACCCC TTGACCGATA CGGATTGGAC CTGAACCTAG GACAAGTACA    3780

GATTCTTTAT CAGATCTGAT AGATTCATTT TCCCAACCAT AGGTTGAATA GAAATATGGC    3840
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784

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GTTTCGGAGT CGAACTCTGC CGCACAAGTG TCTACCATCT TATAAACTGG AACAATCTTG      3900

TTTTCCAAGC GAAGTTGGCG AACTTTATCA TCAGTCGTTC CCCAGAGTTC AGCAATCTTA      3960

CGGTCTGAAA AACCATTAAG TTTGGCTGTT TTCAAAACTT CTAAATCTTG TGGATGAGCA      4020

CCCAATTCTT GCTCAATTTC AAAGATATGC AAGAGTTTAT CAAGATAGAA GATATCAATT      4080

TTTGTAAGCT CTGCAATTTC TTCAGGTGTG TAGCCACGAC GAATGGCTTC TGATACGTAG      4140

AAGAGACGGT CATCTTGGGC TTTGACAACC TTTTCAATCA AGGCATCATC AGAAACTGCT      4200

GCAAGTTCAG GTATTTCATT GTGGTGCACC CCAATTTCAA GGGAGCGGCA GGCCTTGAGA      4260

AGAGATTCCT CGATGTTACG ACCGATTGCC ATGACTTCTC CAGTCGCCTT CATTTGTGTA      4320

CCGAGACGGC GTTCACCCTT TTCAAACTTG TCAAATGGGA AACGTGGAAT CTTAGCAACT      4380

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CTATTCGTCG CCTCTCAGGG CGACATTAAA TAAGATACAA AGGACGAATA GAAAGCGATT      5640
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785

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GAATTTTAGG AAATCAAGGA AGGATTGACA ATCCAAGTTG GTTTCTCTAC ATTCTGAGCT    5700

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CCTTCCACTG ACTTGTCATT GATTTCTTCG TGGGTAATAA TCAAGTGCTC TGGCAAATCC    5940

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CAAGCGTTTC AAAATCTGCA TATTGGATTT GGCAACGCGT GAGTGGTCCA AGTCACCTGC    7320

AATAGCAACT TTAAGACCCT CAAAGTGGCC AAATTCCTCA TAAATGGTCA TCAAATCAAG    7380
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786

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787

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788

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789

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790

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TAAAATAATG GGCTCTTTTT TGATGCCCAA AAGTGAGGTT TATATGAAAC AAGAATCAAC    14640

TGTTGATTTG TTAC                    ,                                 14654
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(2) INFORMATION FOR SEQ ID NO: 107:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6405 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

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GTCAATGGTT CTTCTGGTGA ATGTATCTAC CAAAGCGTTG AAGATCGCAA GTTGATTTTG     240

GAAGAAGTCA TGGCGGTAGC AAAGGTAAAT TGACCATTAT TGCCCATGTT GCTTGCAATA     300

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CAACGATTCC ACCAATTTAT TTCCGCTTGC CAGAATACTC AGTTGCCAAA TACTGGAACG     420

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CAAGTATGGT TTGGTTGATC AAGAGGGGCA ACTTCTTGAA TCGCATGAAA TGCCAACTGA    1080

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791

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792

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793

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CATCTGATAA TCCCCAAATC GCTGTCGCAG TGGTCTTTCC TCATAATACC AATCTAACAA    4920

ATGGTGTAGG ACCTTCCATT GCGCGTGACA TTATCAATCT GTATCAAAAA TACCATCCAA    4980

TGAATTAGAA AGGAAATTAT GCTTTATCCA ACACCTATTG CCAAGTTGAT TGACAGTTAT    5040

TCTAAGTTAC CAGGTATCGG GATTAAGACG GCTACGCGTC TGGCCTTTTA TACGATTGGG    5100

ATGTCTGCTG ATGATGTCAA TGAATTTGCA AAAAATCTCC TTTCTGCTAA GAGAGAATTG    5160

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CCGACTCGTG ACCAGACAAC AATTTTAGTT CTTGAGGATA GTAGAGATGT GGCAGCCATG    5280

GAAAATATCC AAGAATACCA TGGACTCTAT CATGTCCTTC ATGGCCTCAT TTCTCCTATG    5340

AATGGTATCA GTCCGGACGA TATCAATCTC AAGAGCCTTA TGACTCGTCT TATGGATAGT    5400

GAGGTTTCAG AAGTGATTGT GGCGACTAAT GCTACAGCGG ATGGTGAAGC GACTTCCATG    5460

TATCTTTCAC GTTTGCTCAA GCCGGCTGGT ATCAAGGTTA CGCGTCTAGC ACGAGGTCTC    5520

GCTGTGGGAG CGGACATTGA GTATGCGGAC GAAGTGACAC TCTTACGAGC CATTGAAAAT    5580

CGGACAGAGT TGTAAGTGTA GGCAAATTTA CGAACTCCAT TCATTTATAA AAAATCAAAG    5640

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ACCAAGTGCT ATCTACGAAG AAGGTGCAGT GGTCTTTCCA GTCCTTCACG GGCCAATGGG    6060

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TGGTATTGCC CAAGTTCCTT ATGTGGCTAT CGTTGAAGGC GATGATGTGA CTGCTAAAAT    6240

CGCTGAAGTG GAAGAAAAAT TGGCTTATCC AGTCTTCACT AAGCCGTCAA ACATGGGGTC    6300

TAGTGTCGGT ATTTCTAAGT CTGAAAACCA AGAAGAACTC CGTCAAGCCT TAAAACTTGC    6360

CTTCCGATAT GACAGCCGTG TCTTGGTTGA GCAAGGAGTG AATGC               6405
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(2) INFORMATION FOR SEQ ID NO: 108:

794
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(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 11309 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

CGAGCTCGGG TACCGGGATT TTAAGGAGTT TGATATGTAT AACCTATTAT TAACCATTTT        60

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CAGCAATGTA TTTGATGCCA GTTCAGGTGA TTTGTTTGAA CGCAGTAAAG CTCGCGGTTT       180

TGAAGCTGTA ATGCAGCGTT TGACAGGGAT TTTAGTCTTT TTCTGGCTAG CCATTGCCTT       240

AGCATTGACG GTATTATCAA GTAGATAAGA AAATAATGGG CAGGACTAGG TCTTTGCCTC       300

TTTTTATTTT TAAAGGATGT TTGAGAAGGT TTTACAGTAA AAGAAAATTA AAAAATCTAG       360

AAAGAAAATA TGAAAGATAG AATAAAAGAA TATTTACAAG ACAAGGGAAA GGTGACTGTT       420

AATGATTTGG CTCAGGCTTT GGGAAAAGAC AGTTCCAAGG ATTTTCGTGA GTTGATTAAA       480

ACCTTGTCCT -TAATGGAAAG AAAGCACCAA ATTCGTTTTG AAGAAGATGG TAGTCTGACA       540

TTAGAAATTA AGAAAAAACA TGAGATTACC CTCAAGGGGA TTTTTCATGC CCATAAAAAT       600

GGCTTTGGCT TTGTTAGTCT GGAAGGCGAG GAGGACGACC TTTTTGTAGG GAAAAATGAT       660

GTCAACTATG CTATTGATGG TGATACCGTC GAGGTAGTGA TTAAGAAAGT CGCTGACCGC       720

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AAAAATCAGA AAATCAGTCA ACCGATTTAT GTTAAGAAAC CAGCCCTAAA ATTAGAAGGA       900

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GCGAGTGTTC TCGATGTAGT GGGACACTCA ACGGATGTCG GAATTGATGT TCTTGAGGTC      1020

TTGGAATCAA TGGACATTGT ATCCGAGTTT CCAGAAGCTG TTGTTAAGGA AGCAGAAAGT      1080

GTGCCTGATG CTCCGTCTCA AAAGGATATG GAAGGTCGTC TGGATCTAAG AGATGAAATT      1140

ACCTTTACCA TTGACGGTGC GGATGCCAAG GACTTGGACG ATGCAGTGCA TATCAAGGCT      1200

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TATACCATTA CACAAACAGT TATCAAGACC AGTTTTCGTA TGACCTATAG CGATGTCAAT      1500
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795

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CGTTATTCGG AGCACAATCA CGGCCACTAT GGACTAGCTG CTGACTATTA TACTCACTTT      2040

ACCAGTCCAA TTCGTCGTTA TCCAGACCTT CTTGTTCACC GTATGATTCG GGATTACGGC      2100

CGTTCTAAGG AAATAGCAGA GCATTTTGAA CAAGTGATTC CAGAGATTGC GACCCAGTCT      2160

TCCAACCGTG AACGTCGTGC CATAGAAGCT GAGCGTGAAG TCGAAGCCAT GAAAAAGGCT      2220

GAGTATATGG AAGAATACGT GGGTGAAGAG TATGATGCAG TTGTATCAAG TATTGTCAAA      2280

TTCGGTCTCT TTGTCGAATT GCCAAACACA GTTGAAGGCT TGATTCACAT CACTAATCTG      2340

CCTGAATTTT ATCATTTCAA TGAGCGTGAT TTGACTCTTC GTGGAGAAAA ATCAGGTATC      2400

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AGAGGCAGGG ATGGTCCTGA CTGGAACTGA AATCAAGAGT GTACGAGCTG CTCGAATTAA      2820

TCTCAAGGAT GGCTTTGCTC AAGTGAAAAA TGGAGAAGTT TGGCTGAGCA ATGTTCATAT      2880

CGCGCCTTAC GAAGAGGGCA ATATCTGGAA CCAGGAACCA GAACGTCGTC GTAAACTCCT      2940

GCTCCATAAA AAGCAAATTC AAAAATTGGA ACAAGAGATC AAAGGGACAG GAATGACCTT      3000

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AGTTGCCTAT AAACGCATGC CTTTGTGGAA TAAACAAACA ATGCCTGAAG CTGTTCAGCA      3240
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796

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GGAATGGTAC TTGGAATTTT ATTGTAAACC TGAGGATTAT TTTGCTAAAA AATACAATAC      3480

CAATCCTGTT CATTCAGAGG TCCTAGAGGC CATGCAGACA GTGAAACAAG GGAAAGCTTT      3540

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CCGTCGCGAT GAGAATGGCA ATCGTATTCA ACTACGCTTT GCGACCTTAC TAGCTAAGAA      4020

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TCCTCAAAAT GATTGGCAAA AGCTTTATCC ACCAGCCTTT TATCAGCAAT ATTTCTTGAA      5040
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797

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TGAAAAAGAT ACATGGGATC TATCAACGAT CTACCCAACT GACCAGGCTT GGGAAGAAGC    5160

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CTACCTCAAG GCAGGTAAGT CGGACTATCC ACTTAATGTC ATGAGAAAAG CTGGTGTTGA    6780
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798

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ATGCTAACCA TAACATGCGT CGTCCTGTCG TCAAAGAAGA AATTGTAGAC TTGATGCGTC        6960

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CGGTGGATGT CTTATCTACA CTGACAGAGT CTTATGATTT CGTCTTTATG GATTCTGCCA        7320

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ACCAAGCCTT CCAAAATATC TTTACCCAAT ATATCGGTGG TGGAGATTCA AGCTCAAGCA        8580
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799

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TCCAATTGAT TAAGTGATTT AAATGTTTTC TCATAGCCAT AAAACATTTC GGATTTTAAA      8880

ATGCCAAAGA AAGATTCCAT CCTACCGTTG TCTTGGCTGT TGCCCTTACG TGACATGGAT      8940

GCTTGAATTC CCTTACTCTC TAGGAAGCGA TGATAAGAAT CGTGTTGATA TTGCCAGCCT      9000

TGGTCACTAT GGAGAATCGT ATTCTCGTAG TGCTTCTCTT TGAATGCCTG TTCCAACATT      9060

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AGCTTCCAAG GTTGCAATTT TCAAACCTTC TAACTTCCCA AGTTGCCATT CACGGAGATT      10200

AGGAACGATT TCTAAAGAAC AGGGGGTATA GAGTTGACTT TGGATAATCT CAGCAGATTT      10260

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800

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GGCGCGACGA TAATGCTGTG TCCGACTTCG CCTGCAGAGA CAATCATTTG ATCCAAATCT      10560

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TTTTTATTGC CAGAAATTTT AGCTAGTTTC TTTTCAGACA AGTGCTGAGT GATAGGGACA      10740

ATTCCGATAA TCGGTCCGGT CTTGTCTCCC AAAAGCGCCA AGGTTTTGAA AATCTGATCT      10800

CGTTCATAAC CTTGAGGAAG CTCTCCTTCT AGGGCATTGA TTTGAATCCC CTGATGAGGG      10860

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GGATATGGGC ACCGTCGGTA TCCGCATCG                                        11309
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(2) INFORMATION FOR SEQ ID NO: 109:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5548 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

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GTCCTGTGCG AAAGATTGGT TAGGAAGAAA AATCGTGAAG CAACTGCCTC TGCCAAGCTG       180

ACTCGTCACC GTGACTTGGC CACCTAATAA TTGACTGAGT TCTTTGACAA TGGCAAGGCC       240

AAGACCAGTG CCACCAGTTT GTCTGCTTCG ACCTTTATTA ACTCGGTAAA AACGTTCAAA       300

AATACGATCC TGCTCTAATT GACTAATACC AATCCCTGTA TCTGATACAG AAATCTTAAT.      360

GCCTTCGTTC ACCTTTTGGG TCTTGACCTC AATTTTTCCC CCTTGTTCAG TGTAACGGAT       420
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801

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GACATCATCT	GGCACCTGCA	CCTTTAGCTG	TAAATCCTTC	TTCTTGAGCT	GAGGTTGCAA	540
GCTTTGAGTC	AAATCCTGTA	CAAATTCTGC	CAAAGAAAGG	GTCGTCCATT	GTATAGGCAT	600
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TGAGACAAAG	GCTAAATTTA	ACTTTTCATA	AGTTCTAATC	GTTGTTAAAT	CATATAGCAA	840
GACGAGCACA	GCTTCCACAG	ATTGGGTGGG	GCTAAAAACG	GGAACTGCTG	TCACTTCTAA	900
AATCAAGTCA	CCCTCATGAA	ACCCACTTAC	TTCTTGTTTT	AACCTTGTTT	TTTGATCAAA	960
GGCTTGGTGA	ACTAAATTCC	GAATATCCAT	CCGTTTGAGG	TCATCAAGTG	AACTTATGTC	1020
GCCGTCCACA	TCGGGAAAAT	AATGAGGCAG	AGAGCGACTG	GATAATAACA	TCTGACCTTG	1080
AGCGGAAACT	AAAAACGTCC	CCATGGTTAG	GTGCGACAGA	AGAACCTCCA	TTGTTTCGGC	1140
TAGATCCTTG	TATTGCTGAT	CCTGTTGGGA	GACTTTGGTT	TTTAGGCCAG	ACACATACTG	1200
AGCCAAAGAC	TTTAAGTCTT	CTTGCCCTTT	TTCTAAAAAG	TATTCACTAC	TGGTCAAGAG	1260
AGGTTGGTGC	AAGGTCTCAA	AAGCAACTTC	CCATTTCCAA	AGGCAAAAGA	GCCAGTAGCC	1320
ACCTAGTCCC	AAAGAAAGGG	CTAGAAGAAA	GAGACCGATG	CCTTTACTGA	TCCAAGTTAA	1380
TGCCATCCCT	GCAATCAGAA	TGAGGCTAAC	ACTTAGATTG	ACTAGCCAAA	ATTGAAGGTA	1440
GCGTTTCATC	TATAACTCCT	TGAACTTATA	ACCATAACCC	CGAATGGTTC	GAATAAATTG	1500
AGGGGCTTTA	GGATTGTCTT	CAATTTTTTC	CCTCAACTTA	CCAATATGAA	CGTCCACCAA	1560
ACGTGTTTCC	TGCCCAAAGT	CATACCCCCA	GATACGTTCC	AAAAGACGCT	CTCTAGTCAG	1620
TGTCATGTTG	GGATGTTTCA	TAAGATAGAG	CAAGAGTTCA	AATTCTTTTG	GGGTCAAACT	1680
CAGTAACTTA	TTCGCCTTGT	AGACTTCATG	ACGCTCAGGG	TATACTTTCA	AGGTCCCAAA	1740
TAGCCAAGAA	TCGTCAGCGA	TATTATCTGA	ATCATCTCCT	TCTTGTTCTC	CTTTAGTTCG	1800
CCTGAGGACA	GCCTTGACAC	GCGCCAGCAA	TTCTCTAGGG	CTAAAAGGCT	TGGTCAGGTA	1860
GTCATCAGCC	CCTAATTCCA	AGGCCAAAAC	CTTATCAAAT	TCATCACTTT	TCGCAGAAAC	1920
CATCATAATT	GGAGTTTTGA	CGCCTTTGGC	TCTCAGCCGC	TTACAAACTT	CCATGCCATC	1980
TAATTGTGGT	AACATGATAT	CAAGCAAGAT	AAAATCAAAG	GGTTCTGTTT	CTGCCAAAGC	2040
TAAGGCCTTC	CGTCCATTTG	TCACCAATTG	AGTAGAAAAG	CCTTCCTTAC	TTAAATGGTA	2100
GTCAAGCAAT	TTCAGAATGT	GTTCTTCATC	ATCCACTAAT	AAGACTTGTT	TTGTCATCTA	2160

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TTATCTCCTA TTGGTAACAT TATAACACAA TTATCAGAAA TCCTAACATT GCTAAATCAG      2220

ATTAAATTTG CCTATCAAGA CTAGTATCTG GTCAAACGCT CAATCATCTC CTTGTGCTCT      2280

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GGAGCAACAA GACAAGAAAC CAGAGCATCA TCCTTATCAA CTGTTGATCC CCAAATAGTG      2400

CCCTTAGGAA CACAGTAGTG AAGTTGTTGC CCTTTGGATA TGTCCAGGCC TAAAGTGACT      2460

GCTTCGTAGT GACCATCTGC TGTAATCATG TGAACAGTAA GTGGGGATCC TGCATGAAAA      2520

TACCAGATTT CATCTGCTGT CAATCGGTGA AAATGTGAAG GATTCGTTTC TTCTAATAAG      2580

AAATAAATAC TGGTATAAAG CGCCCTTCCC TTACCAGCAA GGTTTATAGT GTCTGAAGCT      2640

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CGATTTCAAG AACTCCTCTC AGTTCTGAGG ACACGGTAAT GATTGATGCG ACGGAAGTAC      2820

AAATCAATCG CCCTAAAAAA AGAATTAGCG AATGATTCTG GTAAAAAAAA TGCCACGCTA      2880

TGAAGGCTCA AGCGATTGTC ACAAGTCAAG GGAGAATTGT TTCTTTGGAT ATCGCTGTGA      2940

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TTTCAACAAC CTATCGAAAT CATCGTAAAC ACTTCGGATT ACGAATGAAT TTGATTGCTG      3240

GCATTATCAA TCATGAACTA GGATTCTAGT TTTGCAGGAA GTCTATTATT TGGTTAGGTG      3300

AATTAGTGAA GCGTTTAGGC AAGTGTCTCT GGTTACGACG TCATGGACTC TAAATCGATT      3360

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ATTGGATACG AGCGTAGGCA TATTGAACGT AAGGTCCAGT TTCACCCTCG AAGGATACCA      3960
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CATTCCCTTT ACGAGTAGAG AGTTTCTTCC CTTCTTTTGT AACCAAACCA AAAGGAACGT    4200

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CGTAAGGTCC TGTTGCGACA ACTTTTTCAA AGGCTTGGCT GTTCATTTTT TCAGCCAGTT    5100

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GCTCCTTTTT GGACTTTTCT ACTATTTTAT CACAATTTTA AAGAAAGAAG AAAAAATTTT    5340

TGAAATCTCC TGTTTTTTTG GTATAATATG GTTATAAATA TAGTTATAAA TATGCACGCA    5400

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GAAATTAAGT ACACAAAAAG AAATTCAAGA TCGGTTGGAG GCGCACAATG TTTGTGTGAC    5520

GCAGACAACC TTGTCTCGTG ATTTGCGG                                       5548
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(2) INFORMATION FOR SEQ ID NO: 110:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3132 base pairs

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(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

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TACCCGGTAG TCTTAGCAGA CACATCTAGC TCTGAAGATG CTTTAAACAT CTCTGATAAA      60

GAAAAAGTAG CAGAAAATAA AGAGAAACAT GAAAATATCC ATAGTGCTAT GGAAACTTCA     120

CAGGATTTTA AAGAGAAGAA AACAGCAGTC ATTAAGGAAA AAGAAGTTGT TAGTAAAAAT     180

CCTGTGATAG ACAATAACAC TAGCAATGAA GAAGCAAAAA TCAAAGAAGA AAATTCCAAT     240

AAATCCCAAG GAGATTATAC GGACTCATTT GTGAATAAAA ACACAGAAAA TCCCAAAAAA     300

GAAGATAAAG TTGTCTATAT TGCTGAATTT AAAGATAAAG AATCTGGAGA AAAAGCAATC     360

AAGGAACTAT CCAGTCTTAA GAATACAAAA GTTTTATATA CTTATGATAG AATTTTTAAC     420

GGTAGTGCCA TAGAAACAAC TCCAGATAAC TTGGACAAAA TTAAACAAAT AGAAGGTATT     480

TCATCGGTTG AAAGGGCACA AAAAGTCCAA CCCATGATGA ATCATGCCAG AAAGGAAATT     540

GGAGTTGAGG AAGCTATTGA TTACCTAAAG TCTATCAATG CTCCGTTTGG GAAAAATTTT     600

GATGGTAGAG GTATGGTCAT TTCAAATATC GATACTGGAA CAGATTATAG ACATAAGGCT     660

ATGAGAATCG ATGATGATGC CAAAGCCTCA ATGAGATTTA AAAAGAAGA CTTAAAAGGC     720

ACTGATAAAA ATTATTGGTT GAGTGATAAA ATCCCTCATG CGTTCAATTA TTATAATGGT     780

GGCAAAATCA CTGTAGAAAA ATATGATGAT GGAAGGGATT ATTTTGACCC ACATGGGATG     840

CATATTGCAG GGATTCTTGC TGGAAATGAT ACTGAACAAG ACATCAAAAA CTTTAACGGC     900

ATAGATGGAA TTGCACCTAA TGCACAAATT TTCTCTTACA AAATGTATTC TGACGCAGGA     960

TCTGGGTTTG CGGGTGATGA AACAATGTTT CATGCTATTG AAGATTCTAT CAAACACAAC    1020

GTTGATGTTG TTTCGGTATC ATCTGGTTTT ACAGGAACAG GTCTTGTAGG TGAGAAATAT    1080

TGGCAAGCTA TTCGGGCATT AAGAAAAGCA GGCATTCCAA TGGTTGTCGC TACGGGTAAC    1140

TATGCGACTT CTGCTTCAAG TTCTTCATGG GATTTAGTAG CAAATAATCA TCTGAAAATG    1200

ACCGACACTG GAAATGTAAC ACGAACTGCA GCACATGAAG ATGCGATAGC GGTCGCTTCT    1260

GCTAAAAATC AAACAGTTGA GTTTGATAAA GTTAACATAG GTGGAGAAAG TTTTAAATAC    1320

AGAAATATAG GGGCCTTTTT CGATAAGAGT AAAATCACAA CAAATGAAGA TGGAACAAAA    1380

GCTCCTAGTA AATTAAAATT TGTATATATA GGCAAGGGGC AAGACCAAGA TTTGATAGGT    1440

TTGGATCTTA GGGGCAAAAT TGCAGTAATG GATAGAATTT ATACAAAGGA TTTAAAAAAT    1500

GCTTTTAAAA AAGCTATGGA TAAGGGTGCA CGCGCCATTA TGGTTGTAAA TACTGTAAAT    1560
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TACTACAATA GAGATAATTG GACAGAGCTT CCAGCTATGG GATATGAAGC GGATGAAGGT      1620

ACTAAAAGTC AAGTGTTTTC AATTTCAGGA GATGATGGTG TAAAGCTATG GAACATGATT      1680

AATCCTGATA AAAAAACTGA AGTCAAAAGA AATAATAAAG AAGATTTTAA AGATAAATTG      1740

GAGCAATACT ATCCAATTGA TATGGAAAGT TTTAATTCCA ACAAACCGAA TGTAGGTGAC      1800

GAAAAAGAGA TTGACTTTAA GTTTGCACCT GACACAGACA AAGAACTCTA TAAAGAAGAT      1860

ATCATCGTTC CAGCAGGATC TACATCTTGG GGGCCAAGAA TAGATTTACT TTTAAAACCC      1920

GATGTTTCAG CACCTGGTAA AAATATTAAA TCCACGCTTA ATGTTATTAA TGGCAAATCA      1980

ACTTATGGCT ATATGTCAGG AACTAGTATG GCGACTCCAA TCGTGGCAGC TTCTACTGTT      2040

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GATGACAAAA TAGATCTTAC AAGTCTTACA AAAATTGCCC TACAAAATAC TGCGCGACCT      2160

ATGATGGATG CAACTTCTTG GAAAGAAAAA AGTCAATACT TTGCATCACC TAGACAACAG      2220

GGAGCAGGCC TAATTAATGT GGCCAATGCT TTGAGAAATG AAGTTGTAGC AACTTTCAAA      2280

AACACTGATT CTAAAGGTTT GGTAAACTCA TATGGTTCCA TTTCTCTTAA AGAAATAAAA      2340

GGTGATAAAA AATACTTTAC AATCAAGCTT CACAATACAT CAAACAGACC TTTGACTTTT      2400

AAAGTTTCAG CATCAGCGAT AACTACAGAT TCTCTAACTG ACAGATTAAA ACTTGATGAA      2460

ACATATAAAG ATGAAAAATC TCCAGATGGT AAGCAAATTG TTCCAGAAAT TCACCCAGAA      2520

AAAGTCAAAG GAGCAAATAT CACATTTGAG CATGATACTT TCACTATAGG CGCAAATTCT      2580

AGCTTTGATT TGAATGCGGT TATAAATGTT GGAGAGGCCA AAAACAAAAA TAAATTTGTA      2640

GAATCATTTA TTCATTTTGA GTCAGTGGAA GCGATGGAAG CTCTAAACTC CAGCGGGAAG      2700

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GGTTATGATG ATGATGGTAA ACCGAAAATT CCAGGAACCT TAAATAAGGG AATTGGTGGA      2880

GAACATGGTA TAGATAAATT TAATCCAGCA GGAGTTATAC AAAATAGAAA AGATAAAAAT      2940

ACAACATCCC TGGATCAAAA TCCAGAATTA TTTGCTTTCA ATAACGAAGG GATCAACGCT      3000

CCATCATCAA GTGGTTCTAA GATTGCTAAC ATTTATCCTT TAGATTCAAA TGGAAATCCT      3060

CAAGATGCTC AACTTGAAAG AGGATTAACA CCTTCTCCAC TTGTATTAAG AAGTGCAGAA      3120

GAAGGATTGA TT                                                        3132
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(2) INFORMATION FOR SEQ ID NO: 111:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14672 base pairs

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(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

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CGAGATTTCT TTAAATGAAC TACGTGAAAT CTACCCATCA TCCAGATCTG GATATTCTCT        60

CCTATCTATA AGTAAAGTTT TAGGAGATTT TAATATAAGT TCTCATGCTT TTAAAGCTTC       120

GGTAAGAGAT TTAAAACCGC TCAGTTTCCC ACTCATTTGC TTCTGGGAGA GTTCTCATTT       180

TATTATTCTT GAAAAAATTA GTAAAAACAA GTTTTATATT TTAGATCCTG CAAAAGGCAG       240

GCAGAGAATG TCAATAAGTG AATTTGAAAG GCATTATTCA AATATCATTT TAACATTTAA       300

AAAGTTAGAT AGCTTTATGT CTCGTAAAGA TAATAAGAAG TCGCCTGTTT TAAAGTATTT       360

TTTTAAGTAT AGGAATAAGC TAGGGATTTT ATTTTTTGTA ACAGCATTAT TGTATGTAAT       420

ACAATCATTA GTACCTATAG CTAATAGATA CATAATTGAC ACGAATTTCA AGGACGATTC       480

GTATTCGTCT AGAATGTTAT TTACTATATT ATTTATATTT ACTGTTTCAT TCTCACTAAT       540

GTATTTATTA AGACAGATAT ATGTTGCATC CTTAAAATAT ATAATGGATA AAGAGATTAG       600

CTATGATTTT ATGAAACATT TGATATATTT ACCTTACAGT TTTTATGAAA AACGTACTTT       660

AGGGGATATA CTTTTTAGAG CTAACTCTAT TGTTTATATA AGAGAAATAC TATCAAATAA       720

TTTTATAGCA GCTATACTTG ATTTGTTAAT GATTGTGGTT TATGCTGTGG TTTTATTTAG       780

CTTTTCTAAG TACATGGTAA TCTTTTTAAT ATCACTAAGT CTAGCTCTAT CTATTGTAAT       840

GTATCCAATC ATAAAAATCT CAAAAAATTT AATTGATAAA AATATAAAAG AAAAGGTTAA       900

TGTTCAAAAT ATTACTTCCG AAGTAATTTC TAAAAATAGT GATATTAAGC TAACTGGAGA       960

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AATAGAATTA AAAGATATTT GGTATAAATA TGGATTATTT GATGATTATG TTTTGAAAGG      1380

AATAAATGTT ACTATTAAAA AAGGAGAAAC TGTTGCTATT GTTGGAGAAT CAGGTTCAGG      1440

TAAGAGTACA TTAGCTAAAA TTTTATTAGG TTTATTAGAA CCTAATATTG GTTCAATAGA      1500

AGTTGATGGA GTAGAAAAAG AAGAAATTGG TCAAACATTG TATAGAAAGA TTTTTGGAGC      1560
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AGTGTTACAA AATTCAACCC TAAGTTATGG TACCTTAAGA GAGAATTTGA CATTTGGACA    1620

CTTTGTTTCA GATGAAGAAT TAATGACAAA TCTAAATTCA ATTGGTCTTA GCAATGTAGT    1680

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AGGGCAGCAG CAAATGATAC TTTTAGCTCG TTGTCTTTTG TCGAAACCTT CGGTAGTTGT    1800

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TCTTGAACTA GGAGGCATTT ATAAGCAATT GTATTCAAAT AATTAGTTTT TGATTAAAAG    2040

GGTAAATTTA TGAAGATTAT GAAAAAAAA TATTGGACTT TAGCGATATT ATTCTTTTGT    2100

TTGTTCAATA ATTCTGTTAC TGCTCAAGAA ATACCTAAAA ATCTTGATGG CAATATAACT    2160

CACACTCAGA CTAGCGAAAG TTTTTCTGAA TCTGATGAAA AACAGGTTGA CTATTCTAAT    2220

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GATTTTAGCA ATAAAGGGGA TTCTGATGCA ATATATGCGC CTGCAGGCTC AACATTATCT    3240

CTTTCAGAAT TAGGACTTAA TAACTTTATT AATGCAGAAA AATATAAAGA AGATTGGATT    3300
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TTTTCGGCAA CACTAGGAGG ATATACGTAT CTTTATGGAA ACTCATTTGC TGCTCCTAAA      3360

GTTTCTGGTG CGATTGCAAT GATTATTGAT AAATACAAAT TAAAAGATCA GCCCTATAAT      3420

TATATGTTTG TAAAAAAATT CTGGAAGAAA CATTACCAGT AAAAAATGGT ATAAAAGTGT      3480

TAAATATACC AAACGTATTG AGATATGATT TGAATATGTT ACAATTAGAA TATAAAAATG      3540

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TCGTTTTGTG TATAATACGA CCCCTATTTC TTACCAGCAG TTTTTGAAAG ATCCAATCAT      4080

CATTGTTATA ACACCCCAAT CAACTGGTCC ACAGTCCATT TTGTTTTGGA TAGACGCAGT      4140

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TGGCAAAAAT TATCTTAAAG AATCCACCCT TTATTCTGGC AGATGAGCCA ACAGCTTCAA      5100
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GGCTAATCAT TATCGCAACA CATAATCCGG CAATTTGGGA GATGGCTGAT GAAGTGTTCA   5220

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CTATGGTAAA AAAGTAGCTT TGAAAACGTA TTGCCTCCAA AGATTTAGTT AAATAATGAT   5760

TTAACACAAA AAGAAATTAT TGAAGTTCTG GAAAGATGTT GTTTCAGTAT TGAGAAAAGG   5820

TGGGAAAAAC TTGCGATTTT CACAGAGAAA GGAAGAAAAA GTATAGAAAT ATAGTCAATT   5880

GAAACAAGAA CAGGATAAAA GAACCTTTTG TGCCATATTT TTCTCCTTTC GCTTTACAAT   5940

TGGATTGAAC ACCTTTATTG TATCGCGTTT GGAGTTTTTT TGGTATAACC TTCGACGCAC   6000

ACCCGCATAG CGGGTGTTTT TTTTGTCTCG CACCTAACGG AGCGAGACAA ACTAATAGTC   6060

ACTTAATCAA AAAACGCACC ATATCAAAAA CTAAAAAGTT TGATATCATG CGTCATGTCT   6120

TAAACTAATT GACTATACTT TCTATTCAAA TGAGCTTTTA ACCAATTGAT TGAGCCAATC   6180

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TGTGAACGAA ACTCCAATTT TTCGATTGTA AATCCACGTT GTTCGATGCG CTTTAACACT   6540

TCACCCACTA GCCCTCTTTT TACACCATCT GGTTTGATGA TAAAGAATGT TTGTTCCATA   6600

CCCGTCTCCT TTGTCAGCTT CTTTCTTTTA TTTTACCACA TTTCGTGGAA AAATGGAGAA   6660

AGTTTTCAGA AGAGAGAATG AGAGAACCCT CGGGTTCTCT CATTCTCTCT TATTCTACTG   6720

TTTCTTCCAC AGTTTCAACG GCAGTATCCA CAACTACTTC TGTTGTTTCT TCATTTCCTT   6780

CTTCCTCTAC TGGAGGATTA AGGTATTCTT CTTCGTTGAC AGCATGTGGT TCAAGGTTAC   6840
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                                   810
GGTAACGGGC CATACCAGTA CCAGCTGGGA TGATCTTACC GATGATAACA TTTTCTTTAA    6900

GTCCAAGGAG ATGGTCTTTC TTACCACGGA TAGCTGCGTC AGTAAGGACA CGAGTTGTTT    6960

CCTGGAAGGA AGCCGCTGAC AAGAAACTGT TTGTTTCAAG TGAGGCTTTG GTAATTCCCA    7020

TAAGGACTGG GCGACCTGTC GCTGGAACTC CACCTGCGAT AAGGACATCT TTGTTGGCAT    7080.

CTGTAAAGTC ATTGATATCC ATGAGGGTAC CCATGAGAAG ATCTGTATCA CCTGGATCCA    7140

TGACACGGAC TTTACGGATC ATTTGACGAA CCATTACCTC GATGTGTTTG TCACCGATTT    7200

CTACCCCTTG GCTACGGTAA ACTTTTTGTA CTTCACCGAG AAGGTACGTT TCAACTGACA    7260

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CGATAGCAGT AACTTGTCCT TTAACCTCTG TAATAACCGC TTCCCCTTTA GGATTGCGGG    7500

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CTTCCACACC AGCATTGACA ATTTCACGCG CCTTGTCTTC TGTAATCAAT TCATTTGGAC    7800

CAATAATCAC TGCACCAGTT TCTGGATGTT TAACAGTTTT CTTAGTGTAA CGACCGTTGA    7860

GACGCTCTTC GAGAGACTCG ATCATCTCTT TTCCTTCTGC GATAGAACGG ATCAAGAGAC    7920

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TATTTCCAAG GTTTTTCTTC TTGAATGGAG GGTTGAGCTC AAGATTGCTG ATAGCTTCCT    8580

TGATATCTCC ACCAAGTGGC AAGAAGTATT TAGCTGGAAC ACCTTCTGTC AAGTTGGCAT    8640
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811

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CTGTTGCGAT ACCAACACGT GAGTGGAGGT GAACATAACC ATTGCGGTAA GCCATAACCG     8820

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ATGAACGGAC TTTACTTGGA GAAGCTAGGG TGATTTGCAT ACTTTTAAAA CGATTTACAT    10380
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812

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CAACCACTAT TTCTTCCCTT TCTATTCTAA GTGAACTGCT TATTCTTGTT CAGCAGCTTC    10440

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GTCATCGTTT TCCAAGAAAG GAATACATGC TGTCGCAACG GCAACTACCT GTTTTGGTGA    12180
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813

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CATGACAATC TTCTCAGCAA AGGTTCCATC TTCATTCAGA CGAGAGTTAG CCTGAGCTAC        12300

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ACGACCATAG TGAGTGTAGT GCACGTCACG TACTTCATAT CCAGCACGGT CACGAGTCAA        12540

ACCACCAGGT CCTAAGGCTG ACAAACGGCG TTTGTGAGAC AACTCAGAAA GCGGGTTGTG        12600

TTGGTCCATG AACTGTGACA ACTGTGATGA ACCAAAGAAT TCTTTAACTG CAGCTGTTAC        12660

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ACGAGTCATA ATCGTACCAG CTTCTACCAA GATTTCTCCA GTTTCAGGGT CTACCAATGG        13140

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CGTATATTTT GGTTCCTTGA TTTCATATCC AACAAATTCC AACTCCATTG TGTCTGTGAA        13860

GTTTGAAATT GGCAATACAT CTTCAAACAC TTCCTTAAGA CCGTGGTCTA GGAAAGCTTT        13920
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814

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GAATGAGTCA GTTTGAATTT CAATCAAATT TGGTAAGTCA AGAACTTCTT TGATTCTTGA    13980

AAAACTACGA CGGGTACGAT GTTTCCCGTA TTGAACGTCA TGTCCTGCCA AGATGATTCT    14040

CCTTTGTAAA TAAGTTCCAA GCCTTGTCAA TCAGGCTTTT CTAATCGTCA TATGGTTGTA    14100

AACCCCTTAT CACCGTGTCC TCTTGACGAA TTTTCAGAAT CTTTAAGCCT CTGTTACAAA    14160

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TTTTCCCATA GAAAACTTGG CATCACATTC GAATCACGCT ATGGTACAAA AAACTGAAAA    14400

AACTATTGAC TGAAAATCAT TTTCAAGGTA TAATAATAAA CGTTAAGGCG GTATAGCCAA    14460

GTGGTAAGGC ACGGCTCTGC AAAAGCTTGA TCGTCGGTTC AAATCCGTCT ACCGCCTTCT    14520

ATAACTTGAT TTATCAGGTT TCAAATGAAC AGAAAGCCCA ATTTGAAGGG CTTTTTTTAT    14580

TTTCCCTCGA ATAAATACGT ATAACTTTAA AAACTTTTGG AGCGAGTTTG TGGCAGAGTT    14640

CTTTCCATGG CATAATTCCC TTTTGAAATC AG                                  14672
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(2) INFORMATION FOR SEQ ID NO: 112:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 7902 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

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TTTTCATAGC CATTGGTAAA GAGAATTTGG GAACCAAGAA TGGTATCTAA GGCCAGGATA     120

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TAAAGTAGGA TGGCATTTGG TCCTAAAACC ATGAGTCCAA AACTCAGTGG AATGATAAAG     240

AAGTTAAAGA TTCGACTACC TCTATTAACC AGAGAAACAT AGGCTTCTTT GTCTCCTTTC     300

CCCAGATAGT AACTGAGACG AGGCACACTC ACTCCAATTG CACCTGTTAC AACCCCAGCT     360

ATAACGGTCA CAATTCGCTG AGCTATGGTA TAGTAACTAA CGTTGACATC AATCCCTGTT     420

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ATGGCTGTCA GAGGGAGAAA GAGTGGTTTA AAATCACTTA GGTGAATTTT AACAAGTTTG     540

ATGTCTCTTT TAATCCAAAA ATAACTAATC AGGTAGTTAA TCAGCGTCGA TAAACTCATC     600

ACAAGTGTAT AGACAACAAT ATCGTGTTCA TTTTTAACAA ATAAGAAAAT AGAGACCAGC     660
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815

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TTGACCCATT CGATTGAAAA AATCTGGGCA ATGAGTTGAA TCCCCATAAC AAGGTAGACC      780

TTTTTGACGA TTGGATTATC AGTAAAGAAG AGAGGATAGG CTAGGATATA GACAGCAGTG      840

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TTTTTGTTAT CCTTGACATT ACTGATAGCC CTTAAACCGT AGTTATAGAC ACCATAAGTT      960

GCAAAGGGCA AGAAAAATGA CAAAATAGTG TCGACTGAGT TGAAGTAACC ATAGTCAGTT     1020

CGGTCCAAGA CACGCGCGAC ATAGGTTCCA GTTAGGATGG GAAAAATAAT ATTCAAGACA     1080

CGAATTCCCA TGTAAGATAG AGCATTTAAT TTTATACTTT TCATTCAATT TACCTCGTTT     1140

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TGAAGTTTCA AATCTTAAGT TTTAAGTTTT CTTTAAGGAA AGTATATTAT TCTGAAGGAC     1260

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CTCAAATCTG AAGATTACAA CCGTAACAGA TTTGAAGATT GCAAAAAGTA TGATTGAGAA     2160

AGACTAGTAA AATGATTAAT CAAATTTATC AACTAACTAA GCCTAAGTTT ATCAATGTCA     2220

AATATCAGGA AGAGGCTATT GACCAAGAGA ATCATATCCT TATCCGTCCC AACTACATGG     2280

CTGTCTGTCA TGCGGATCAG CGTTACTATC AGGGAAAACG TGATCCCAAG ATTTTGAATA     2340

AAAAGCTTCC AATGGCAATG ATTCACGAGT CATGTGGAAC CGTCATTTCT GACCCGACCG     2400
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816

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GAACCTACGA GGTTGGTCAA AAAGTTGTCA TGATTCCCAA TCAGTCTCCT ATGCAGAGTG    2460

ATGAAGAATT CTATGAAAAC TACATGACAG GGACCCATTT CTTGTCTAGT GGATTTGATG    2520

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AAGATACGGT TGCAGCCATT ACAGAGTTTG TCAGTGTGGG CATGCACGCT ATGAATCGTC    2640

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TGCTTATATC TTTTCGATTT TTACAGATTT GTCACCCTTT GTGGTGGCTG CAACTCATGA    4200
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817

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TTTTTTGAGC ATCTTTATCT TACTAGCTTT TCTCTTGGTA AAAGAAGGGA AAGTTCGCCT    4260

CTCAATTTTC TTAAATATTC GCAATGTCAG TGTTATCATC GGAGCCTTGC TAGCAGGCCC    4320

TATCGGTATG CAGGCCAATC TTTATGCAGT TAAGTATATC GGAAGTTCTT TAGCTTCATC    4380

TGTATCGGCT ATTTACCCTG CGATTTCAGT TCTATTGGCT TTCTTCTTTT TGAAGCACAA    4440

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GCGGGATTGG GAACTCGCTT GCGTCCTATG ACTGAAAATA CCCCTAAAGC CTTGGTTCAG    5040

GTTAATCAAA AACCTTTGAT TGAGTACCAA ATTGAGTTTC TCAAAGAAAA AGGAATCAAT    5100

GACATCATCA TCATTGTTGG TTATCTTAAA GAACAATTCG ATTACTTGAA AGAGAAATAC    5160

GGTGTTCGTC TCGTTTTCAA TGATAAATAC GCTGACTACA ATAACTTTTA CTCTCTCTAT    5220

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AATACGGTGA AAATGTTGAT CAGGAGCTTT TGTTGGGTGA TATTGCAGAT ATCTCAGGTT    5880

GCCGTAATCC AGCCGTTTTT ATGGAACGTT ATTTTCAGAT AGACGATGCG CATTTGTCGA    5940
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818

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AAGAGTTTCA AAAATTTCCA TCTTTCTCTA TTTTAGATGA CTGTTATCCT TGGGATTTGA        6000

GTGAAATATA TGATGCGCCT GTACTTTTAT TTTACAAGGG AAATCTTGAC CTCCTGAAAT        6060

TCCCGAAGGT AGCGGTCGTG GGCAGTCGTG CTTGTAGCAA ACAGGGAGCT AAGTCAGTTG        6120

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CTATTCCTGG TAGCATTTTA GATGGACTAT CAGACGGTTG CCATCATTTG ATTCAAGAAG        6540

GAGCAAAATT GGTCACCAGT GGGCAAGATG TTCTTGCGGA ATTTGAATTT TAAAAATGAC        6600

CTAAGCTAGA ATTCTAAGAA AAAATCAATT TTAAGAGAAA ATGAACCCAA CATTTCCATA        6660

ATAAAACGCA TATTAGCAAG TTTTTAACAC TTGATAATAT GCGTTTTTTC TAAGTGGATT        6720

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CAAAGCAGTG CTTTGAGCAA CCTGTGGCTA GCTTCCTAGT TTGCGCTTTG ATTTTCATTG        6900

AGTATAAGGG AAAGTATAGT GAATTGAAAT AAGATGTGAA CAACTCTATC AGGAAAGTCA        6960

AATTAATTTA TAGAAATATT TTAGCAGCCA AGGTGTACTG TTATAGATTC AATTACACTA        7020

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CGTGATTATT GGAGCCATGT TAATCTCTCC TTTGATGACA CCTATTCTGG GAGTGGGGCT        7680

CTCTCTAGCT ATATTTGATT TTAAATTGTT AAGAAAATCT TTTAAAATAT TAGCTATTCA        7740
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819

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AATTCTTGCC AGTCTAATAG CTTCAACACT TTATTTTTAT CTTTCTCCCA TTTCGTATGC        7800

TAGTTCGGAG ATTGTTGCTA GAACCTCTCC GACTATTTGG GATGTTCTCA TTGCTTTTGT        7860

AGGAGGGATA GCAGGTATCA TTGGTGCTAG GAAAAAAGAG AC                          7902
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(2) INFORMATION FOR SEQ ID NO: 113:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 18627 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

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GAAGTTGAAA TGGCCAGCTG ATGAGCAATA TCGGTCATAG AAATCTTCTC AATCAACTTT          60

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TCAGCGACCA TCATTTTTGA ACAGTGATAG CACTTGAAAC GACGCTTTCT AAGTAGAATT         180

CTAGTAGGCA TACCAGTTGT CTCAAGGTAA GGAATCTTAG ACGGTTTTTG AAAGTCATAT         240

TTCTTCAATT GGTTCCGCA CTCAGGGCAA GATGGGGCGT CGTAGTCCAG TTTGGCGATG          300

ATTTCCTTGT GTGTATCTTT ATTGATGATG TCTAAAATCT GGATATTAGG GTCTTTAATG         360

TCTAGTAATT TTGTGATAAA ATGTAATTGT TCCATATGAA TCTTTCTAAT GAGTTGTTTG         420

GTCGCTTTTC ATTATAGGTC ATATGGGACT TTTTTTCTAC AATAAAATAG GCTCCATAAT         480

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CAAGGGATTT TTCTTTTGTC TCTGCTCCTT TTTTGATATA ATAGTTCTAT GTTAAAATCA         600

GAAAAACAAT CACGTTATCA AATGTTAAAT GAAGAATTGT CCTTCCTATT GGAAGGCGAA         660

ACCAATGTTT TGGCTAATCT TTCCAACGCC AGTGCTCTCA TAAAATCACG TTTTCCTAAT         720

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AGTCTAGCTA AAAGTGAAAT TGTGGTGCCG ATGATGAAGA ATGGTCAGTT ACTTGGAGTT         960

CTGGATCTGG ATTCTTCAGA GATTGAGGAT TACGATGCTA TGGATCGAGA TTATTTGGAA        1020

CAATTTGTCG CTATTTTGCT TGAAAAGACA GCATGGGACT TTACGATGTT TGAGGAAAAA        1080

TCTTAATGTA TCAAGCACTT TATCGAAAAT ATAGAAGTCA AAACTTCTCC CAGTTAGTTG        1140

GTCAAGAAGT TGTGGCTAAG ACTCTTAAAC AAGCGGTGGA GCAAGAGAAA ATAAGTCACG        1200
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820

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TAAAGACGCT GGAAGAACCA ACACAGAATG TAGTCTTTAT TTTGGCCACT ACTGAATTGC      1560

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CACAGGATAT TAAGGAACAT ATTCACTATA TCTTAGAAAA AGAAAATATC AGTTCTGAAC      1680

CAGAGGCTGT GGAAATCATT GCCAGACGGG CGGAAGGTGG AATGCGGGAC GCCTTGTCTA      1740

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CTCGTTTTGT GACCGATCTT TTGCACTATT TAAGAGACTT GTTAATTGTT CAAACAGGGG      1980

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CCAAGATTTA TGCTGAAATG ATGACCGTCC GTTTGGCGGA AATCAAGTCC GAACCAGCTC      2160

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AGCATTTTAA TAGGAAAGAC TAGCCCTCAG CTTCCAGACA AAATCAAAGC CTTTTAGGCT      3000
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821

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ATTAGAGATC AAAGATCTTC ACGTTGAGAT TGAAGGAAAA GAAATTTTAA AAGGGGTTAA    3180

CCTGACCCTG AAAACAGGAG AAATTGCCGC TATCATGGGA CCAAATGGTA CAGGTAAATC    3240

GACTCTTTCT GCCGCTATCA TGGGAAATCC AAACTATGAA GTAACTAAAG GTGAAGTTTT    3300

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822

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AGGCCATGCA GCCTCTATTG GTCAGGTAGA TCCAGAAGAT ATGTACTACC TCATGAGTCG    5040

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GATGCTGAGC AAATCAGTCT CAACAATCCG ACTTGTGGGG ATGTCATCAA CCTCTCTGTC    6540
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823

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AAAGAGTAGA ACCAAAACCA ATTGACCTTG GTGAATATAA ATTTGGTTTC CATGACGATG      6960

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CTTCTGCCCA GTACGAGTCA GAAGTGGTTT ACCACAACAT GAAGGAAGAG TTCCAAAAAT      7320

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824

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825

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GTGTAGTTGG AATGATTGTC GCAGTGCCAA CCTATTCTAT CTTGAAAGAA ATTTCTAAGT    10920

TCTTATCCCA TTTGTATGAA AATCATAAAA TAATGAAAGA ACGAGAAAGA GAATTAGCTA    10980

AGTAAAAGTC AGGAGAACCC TGATTTTTCT TTACTGGAAG TGGCCTTTAG ATTAGAAGAC    11040

TGAAAATAAG TTAAAGTCTT AAACTAATTT TCACAGCTAA GAATAGTAGA AGTTAATCTG    11100

ATAAAAATCG AAAAAACCAG TGGAATTCTG TGTCAGGGTA AGTTCCACTG GTTTTCATAG    11160

TCTATTAAAG TTCGAATGAA ACCTATTTAT AGTAGATTGA AACTAGAATA GTACACCTCT    11220

AATTCTAAAA CATTGTTAGA AATCGATTTG ACTGTCCTGA TCTATTCGTT CTATTCTTAT    11280

TTCATTTTAC TATATTTTGG TGCAATAAGT GAAAAGTAGT CCGAATAATA TAAGGATTGA    11340

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AAGTATTTTA GAATAATTCT CTTCGTGAAT TTCTTCAAAA CAGATAGCTT CATCTTAGGT    11460

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GGTCGTTACG GATTCGACAG GCATTATGAG GCATATTTTG CGACTCGTGT GGCGACGTAA    11580

ACGCTCAGTT AAAATATAACT GCAAAAAATA ACACTTCTTA CGCTCTAGCT GCCTAAAAAC    11640

CAGCAGGCGT GACCCGATTT GGATTGCTCG TGTTCAATGA CAGGTCTTAT TATTAGCGAG    11700

ATACGATTAA GCCTTGTCTA GCGGTTTGAT AAGAGATTGA TAGACTCGCA GTTTCTAGAC    11760

TTGAGTTATG TGTCGAGGGG CTGTTAAAAT AATACATAAC CTATGGTTGT AGACAAATAT    11820
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826

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GTTGGCAGGT GTTTGGACGT GGGTTCGACT CCCACCGGCT CCATTATTCC TTTGCATTCT    11880

TTTGCATTCC TTGGTAAAAC GTTGTTAAAT CAACGTTTTT TATTTTTATC TTTGGTATTC    11940

CTTTGCATTC TTTTGCTAAA AAGGGAGTCA CAAACAGACC CTATTTTAAA AAAGGATAGA    12000

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GGGATTTATC GGTGGCTTTA CTGGTAAATT TATCACAGAT ACTTTAGCAG AGGAAGAAAT    13260

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CCAAGAAACA GAAATCAACG GAACGGGTCC AACTGTTGAA TCGGTTCAGC TAGAAGAATT    13380

GAAAGCTATT TTATCTAGTC TGACAGCAGA AGATACAGTT GTCTTTGCAG GTTCAAGTGC    13440

TAAAAATCTA GGCAATGTTA TCTATAAGGA TTTGATTTCC TTGACGCGCC AGACTGGTGC    13500

GCAAGTGGTC TGTGACTTTG AAGGACAGAC CTTAATTGAT AGTTTGGACT ACCAGCCTCT    13560

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827

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GAAATGGGGG TTGGTATCAA GGTCGAAACC AACGGTGCTA GCGGTGTTGG AAATCAACTA      14580

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CCTCGTTCAC TCGAAGGTGC TAAATCAATC CTTCTATTGC CACTTCTTGG AACAATCTTG      15300

ACAGGATTTG TTATGCTAGC TGTGAATATC CCAATGGCTG CAATCAACAC TGCTATGAAT      15360
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828

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GACTTCCTAG GCGGTCTTGG AGGAGGTTCA GCTGTCCTTC TTGGTATCGT CCTTGGTGGA    15420

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AGTCAAGCCG GCTGTTGGTG TAAGGGTCAA CCGCATTTCC AATCTATCAG ATGACCTCGC    17100

TCTAGCCTTG GCTGCCAAAG ATGTCCGGAT TGAAGCACCA ATCCCTGGGA AATCCCTAAT    17160
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829

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CGGAATTGAA GTGCCCAACT CCGATATTGC CACTGTATCT TTCCGAGAAC TATGGGAACA    17220

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AGGGAAGTCA GTAGCAGTTA ACGGCATTAT TGCTAGCATT CTCATGAAGG CGAGACCAGA    17400

TCAAGTTAAA TTTATGATGG TCGATCCCAA GATGGTTGAG TTATCTGTTT ACAATGATAT    17460

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GGATTCCTTT TGGATTTCTT TGACAATGGT TGTCGTCTGG CTTGTCGTAG GTTCTTTTTT    18600

AATATTTTTG TTATTATCCA AGGCGTT                                       18627
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(2) INFORMATION FOR SEQ ID NO: 114:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2560 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

830

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

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TAAAATACGT TACCTTGCTT CTGCACGTTC AGCAGGTAAG TCATTGAAAT TTAAAGATCA        60

AGATATTACA ATTGAAGAAA CGACTGAAAC AGCTTTTGAA GGAGTTGATA TTGCTCTCTT       120

TTCAGCAGGT AGTTCTACAT CAGCTAAGTA TGCACCATAC GCAGTAAAAG CTGGCGTGGT       180

AGTAGTAGAT AATACATCTT ATTTCCGTCA AAATCCAGAT GTTCCTTTGG TTGTTCCAGA       240

GGTCAATGCT CATGCACTTG ATGCTCACAA CGGAATCATT GCCTGCCCTA ATTGTTCAAC       300

AATTCAAATG ATGGTGGCTC TTGAGCCGGT TCGCCAAAAA TGGGGCTTGG ACCGTATCAT       360

TGTTTCAACT TATCAAGCCG TTTCAGGTGC TGGTATGGGA GCAATTCTTG AGACACAACG       420

TGAACTTCGT GAAGTCTTGA ATGATGGTGT GAAACCACGT GATTTGCATG CGGAAATCTT       480

GCCTTCAGGT GGTGACAAGA AACATTATCC TATCGCCTTT AACGCTCTTC CACAAATTGA       540

TGTTTTCACT GATAATGATT ACACGTACGA AGAGATGAAG ATGACCAAGG AAACTAAGAA       600

AATTATGGAA GATGATAGCA TTGCAGTATC TGCAACATGT GTGCGTATTC CAGTCTTGTC       660

AGCTCACTCT GAGTCTGTTT ATATCGAAAC AAAAGAAGTG GCTCCAATCG AAGAAGTAAA       720

AGCAGCTATC GCAGCCTTCC CAGGTGCTGT TCTTGAAGAT GATGTAGCTC ATCAAATCTA       780

TCCTCAAGCT ATCAATGCAG TTGGTTCGCG TGATACCTTT GTTGGTCGTA TCCGTAAAGA       840

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TGCTTGGAAC TCAGTTCAGA TTGCTGAAAC TCTTCATGAA CGTGGATTGG TTCGTCCAAC       960

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CTTTGAAATA GAGAGGTGTT TTCGTGTCTT ATCAAGATTT AAAAAAATGT AAAATCATTA      1080

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CTGACCTACC AATTATTATC TATAACATTC CAGGGCGTGT AGTTGTCGAA TTGACTCCAG      1500

AAACCATGCT TCGCTTGGCT GACCATCCAA ATATTATCGG TGTCAAAGAA TGTACTAGCT      1560

TGGCTAATAT GGCTTACTTG ATTGAGCACA AGCCTGAAGA GTTCTTGATT TATACAGGTG      1620

AGGATGGAGA TGCTTTCCAT GCCATGAACC TTGGGGCGGA TGGGGTTATT TCTGTTGCCT      1680
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831

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CAAGTCCTGC TCCAGTTAAG GCAATTCTTA ACTATATGGG ATTTGAAGCT GGACCCACTC    1860

GTCTACCTCT TGTTCCAGCA CCAGAAGAAG ATGCCAAACG CATTATCAAG GTTGTCGTAG    1920

ATGGCGACTA CGAAGCAACT AAGGCAACTG TAACAGGGGT CTTAAGACCA GATTACTAAT    1980

AAAGACAATA AAATCCGGCT CTTTGTCAAC TGTAGTGGGT TGAAGTCAGC TAAGCTCGAG    2040

AAAGGACAAA TTTTGTCCTT TCTTTTTTGA TATTCAGAGC GATAAAAATC CGTTTTTTGA    2100

AGTTTTCAAA GTTCCGAAAA CCAAAGGCAT TGCGCTTGAT AAGTTTGATG AGATTATTGG    2160

TCGCTTCCAA TTTGGCGTTT GAATAGGGTA GTTGAAGGGT GTTGACGATT TTCTTTTTGT    2220

CCTTTAGAAA GGTTTTAAAG ACAGTCTGAA AAATAGGATG AACCTGCTTC AGATTGTCCT    2280

CAATGAGTCC GAAAAATTTC TCCGGTTCCT TATTCTGAAA GTGAAACAGC AAGAGTTGAT    2340

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TATTGGTTAA GTGCATACGA AAAGTAGGAC GATAAAATCG CTTATCACTC AGTTTACGGC    2460

TATCCTGTTG AATGAGTTTC CAGTAGCGCT TGATAGCCTT GTATTCGGGA TTTTCGATGA    2520

AACTGATTCA TGATTTGGAC ACGCACACGA CTCATAGCAC                          2560
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(2) INFORMATION FOR SEQ ID NO: 115:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11303 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

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ACGGTAAGGA AGCAGACCCT CTCTATGTCT GGTTACAAGA CCAGAAATCC GGCCCACTAG    180

GAAAACGAGT CGAATGGAAT TTCGCTAAGT TTCTCATCGG TCGAGATGGG CAAGTCTTTG    240

AACGCTTTTC TTCAAAAACA GACCCAAAAC AAATTGAAGA GGCGATACAA ACTCTACTAT    300

AATTCACAAT CTCACTATGA TTAGGTTTCC TTTAACCTGA TGAATAGTGA GATTTTTTGA    360

TGGGCTTTGA CTTAAATAGA AAAACACCCC ATGATATGAA ACATGAAGTG TTGTAAAGTC    420

TATGTTGTAG GTGCTTATTT CACAATTTCA ATGTGACCAG TGATAACGAA TACCATACAG    480
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832

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AATCTTCATA TACACTAAAC AAATGACTTT CTAATTATTT CAATTAGTTT TGGCTAGTAA    540

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AGTCATGAGA GTTTTTCGCA TTGATGAATT GATTTAACAA TCTATCTTTT AATTCATATG    660

GAAGAGAAGC TGTCTTTAGT AGTCTAAAAA CTTCGTCATT TAAAGATGTC CTTTTATTAT    720

CTTTCCATTC AAATTTAGCT GTATCATTCT TATTTGGCAA TTCAATTATA GACACATTCG    780

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CATTTTGATC TTCAAGCATT TCAAAAGAAT GTTGTTTTCC TGGGAATACA TACCAATCTA    960

CAACTTCAGG TAAATCAACA CCCATACCTA TCTCAGAACC AACCAAGGGA ATGATTGCAC   1020

CACTTTTTGC AAACACAGGC GTAGTCGAGA TGTCCCTATA AACACTTAAC TTCACACCAC   1080

CTGTGTATTT TTTCTCTGAA AAGAAGTCAT ACCATTCACC TTCAGGGAAC CATACATCTA   1140

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GCCAATATCT ACTCCACCAA TTGCCTAAAG CATATCTTGG CAACAAGGGT GTTGAACCAG   2220

TCAAATGGTA AAAATCTCTG ATTGCTCCTC TATAATCATG CCCATAGGCA AAGAAATACA   2280
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833

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GGTCAATTTG ATTTTCTCTC TCAATATAAC CAGATTGTTC ATCCCAAATA AATCCTTGAG   2340

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TTGTGAAACA AACTACTTTT AAACTATTAA CTAAGATAGG ATTGATAAAT AATTTCAAAC   3000

TCTTACTAGC AATCATACGA TATTCAAGCT CACGTGCTTT TTTCCTTCCT GCTTATTTCT   3060

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ATATCTAAGG ACATATGCTA CCTCCTTTAG ATACATTATA CCATGTTTCT CTGTAGCTTT   3360

TAAAAATTTT ATTTTGTTTG TCATATCTAA GTTTTCAGCA CGCTTATCCT ATTTTATAAG   3420

CCTCAAACCC AAATATAAAA CGCATTCTTT TTGCTTTTTT ACTATTGTAT CGTATTCTAC   3480

GATAACATAC TTTACTTTAT TGTTTTTTTA AATAACAGCA GTTCCCTGTT TATCAACTAT   3540

TCGAACTACT TTCTATTTTG CTTCATACCC TACATAGCGA AAAAATATGA AAAAGCAGAG   3600

AAGAATATCT TAAAAAGACC TCTTCACTGC TAATATTAAC ACTCATTATT TAAACTATAT   3660

GGATTCTATC ATCGAGTATA CTTTTTTACT TATTAGATAC CTTGCTCTTC TTTCACCAAT   3720

TTTTGATCAT ATACACGGAT GAATGGAAGA TAGACTAGGA ATGCTGCAAA TGCACATACT   3780

AGAGCAACTA ATACAGCTCG AAGATCTGCT GTCCCTAAGA AAGCTCCAAT CCCTACTGGA   3840

GTTGGCCATG GAACCTGTGC GATAATTGGC TTAATAAAGT TTAGAGAATT CGCTACGTAA   3900

TAAATAGTAG CAGTAACCAT TGGTGCTAAA ATAAATGGTA TAGCCAAGGC TGGATTATAG   3960

ATAATAGGTA ATCCAAAAAT TAATGGTTCA TTAATATTAA ATAAGGCTGG AACTACAGAT   4020
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834

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GCTCGTCCTA TTGCTTTAAG CTGTTCAGAT TTAGAGGCAA AAGCAATATA TAAACATAGT          4080

CCTAAAGTTG CACCAGAACC ACCTGCAATT ACAAACATAT TAGAAAATTC ACCTGCAACA          4140

GCGAAGTGCC CGCCAGCAGC ATTTTCAGCC ATGTTAGCAA GAGCAATTGG ACTAACAAAT          4200

GCAAAAACAA TGTTCGCACC GTGGATACCT ACAATCCAAA GTAGTTGAGT CAATAGATAA          4260

ATAATCATTA AACCAATCCA CGAATTAGTC AGATTGGATA CAAAACCAAA TGGAATTGCA          4320

ATGACTTTAA AAATATCTGT TCCCATTGCT ACAAGAAGAC CGTTGATAAA GATAACAACA          4380

AATGCAACAA CAAATCCCGG AACCAAAGCG GTAAATCCAC GAGAAACTCC TTCTGGAACA          4440

GCTTCAGGCA TTTTAATAAC CCAATTATGT TTAACACACA TACGATAAAT AAGAACAGTC          4500

ACAATTGCCA TAATGATTGC GGTAAAAATC CCTGTTGTCC CAAAACGTGC GACTACATTT          4560

CCCATTGCCC ATCCATCTGC AATTACTGCA CCTTCTTTTA GACTTGTCAC AGTCTTCATC          4620

ATTCCACCAT CAAAAATGAT TTGCGGTACT GTCATGACAA AAGCCATCAA GGCAAGCAAG          4680

GCACCATTAA GAGGATTCAT ATTGAGTTCT TCTTCCTCTG CATAAATTTT TGTCAATTCA          4740

TATGCAAGTG ATAGAACGAA ATAAAGAGAT AGAGAACCCA TAGTCGCATA GTTTGCAACC          4800

ATGTAAAGTG ATGTGAATTT ATCAAATGAA GCAGAGAAAA TATCTGCCAC AATTGGCCAA          4860

AATGAGAAAG CTTGTGGCAA AATACTGAAT ACCAAAAACA TTGATCCTAC AATAGTAAAT          4920

GGTACAGCAG CCATACCTGC AGCCGTGATA GCACGTACTA CTTTAAACTG AGCAAGTTTG          4980

CCCATTGGTC CCATAACATG GTTTTCAAGA AAACCAAACA ACCCGTTTTG TTGATCCATA          5040

AATAGACCTC CTTAATAAAA CATAATAATT TTTACTTTCT AAAGACTAGT TTCAAATACA          5100

AATTATACTA GATCAGGATT ATAAACTAAG TGAGTTCTTT TCCAATTGGA CAAATTGTTG          5160

ATAAGCCTTA TCTGTTCGTT TATAAATTTT TTTAATTCTT CTAATGTCTA ACAAACTCAG          5220

AACTAAACCT AATAGAAGAA CTACAAAAAC AAATAAACGT GCTACTTGGT TATTTTCAAA          5280

AATCGGAAAA AGATTCTTAA ACCAACTTGT CCAAGTTAAA ACAAGTAATC CTATTGAAAT          5340

AAGCATTTGT ATTCTAACAA ACATTAGTGT TATTCCCAAC TTTTCTTTCC TATTTCCATA          5400

AAGTTTAAAT TGTTCAACAG TTGCTAAAAT AGAAAATACT ATGAGCATAA TGGGGAAAAT          5460

AATAATAGGC GAGGGACTAA TAAACTGACT CAAAAGCCAA TAAATATTCC CAAAAAAGAA          5520

GAGTGCTATT GAATAACGTA GAAGAAGATA TCGATTGAAA AAAGTATTAG TTAGAGCCAT          5580

CTCTCGACGT TGTTGTTCAA TCTTTTGTCG TTCTTTTTTA TCCATATCAT TTCCTCCTTA          5640

TATAACAACA CATATTTAGT TAACTTTCTT ATAAAGAGCT AACATTTCCT TTGCTACTTC          5700

TAATAATGTC ATAGTGGTCA TTAAATGATC TTGAGCATGT ACCATGATAA TTTTCAATTTT        5760

AATTTCCACT CCACTTGCGT ATTCTTGCAA GAGTTTGGTT TGTGCATGAT GCGCTTCAAG          5820
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835

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AATTATCTCA TTTGATTGAT TTAATTTACT TTCTGCATCA TCAAAACTAC CTTCTCTCAT       5880

TTTTGCAAAT GCTTCATGTA TTTCTGACCT TGCATTTCCC GAATGCAGGA TAATTTCAAA       5940

TGCTGCAACC TGCAGTTCCT CTTGATTCAT ATAAACCTCC TATTTTATCT TCTCAAATAT       6000

GTTAATAAAA TCTTCAAAGT TATTGCAAGA TATTAGCTGA TTTTGCAATT CATCATTCTC       6060

TGTCAGAGAG ACTATCTTTT TAGTCACAGT TGCCAAACCT TCGTTCCCAT ATATTGATGG       6120

AGATAGAAGA AATACTAGCT GGACATGTGA ACTTTGATTA TCCCAGAGTA ACGAATCTTT       6180

ACAAATTGCA ACCGAAACCT TTCCCTCTGT ACCAAAGGGC TGAATAGGAT GCGGAACTGC       6240

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AGATTGTTCA AACTCATTTG ATTCACCAAC AGATAAACTC TCAACCATCT TTTCAAGTAA       6360

ATTTACCTTG TCTGATTCAG TACATATTAA AAAGTTTTCT TTACTAAAAT ACTGTCTAAA       6420

GCCGTTGTTT TCAAATTTGT TAATCTTTGA TGATTGTACA TAACTAGAAA CTTGCATCTA       6480

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AACTGGGATT TGAAAATATA GATTTGATAA ATCAATAGCT GACACTATAA AATCTATTCC       6600

TTTAAGTTTT TCTTGATTCA ATTCATAGTA GCCTATTACA TCAACAACTT CTACTCGCTT       6660

CCCAAACTCC GTTTCCAAAC GATTTCTTAA CATTTGGGCT GCACCAAATC CTGTTGCACA       6720

AATAGCAAGA ATATTAAACT TAGTACTCTC TTTGCTACGT TCCATAGCAG CTAAAAAGTG       6780

AAGACTTACA TATGCTACTT CATCATCTGA TATTGTCCAC TCCAAGAACT TGTCCATATT       6840

TGCAAGAATT TCTCTAGTCA TAAAGAATAT ATCACTATAA TTCTGTTTAA TTTCATCTAC       6900

CAAAGGGTTA TTTAAGGTAA TCCGGCTTTC TAAACGTACT TGTAGTGTCA TTAGATGAGT       6960

TATCAATCCT TCAATTAGTT GGAAATCTGA AGAAAAGTTA TACATATCAT CTAATCCTAA       7020

ATTCTGAAAT GTTTTAAATA AAGATTTTTT TAAAACTTCT TCAGAAATAT TCTTCTGATT       7080

TTTTTGACAT TGTTGACTCT TAGCTAACAA ATGCAAAGTA ATGTAGTCTA TTTCCTGAAC       7140

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TAGGTTGGCC TCTTGGCATT CATCCAAAAC AATTCTAGCA AATTCTTCTA ATGGAACAGT       7380

TTGATCAAAA AAGTTAAATT TTACATAGCA ATGTATTGTT TTAAAAAATT GATTCTCTAG       7440

GAAATAATTT ATGATAAAAC GTCGTTTATC ACGTTCCTCG CCTGAGACAT AAACTCCTTT       7500

ATTCGCCCTA CTCTCAATGG ACAAATTATA CTCTGATAAC ATCACTCGTA TCTTTCTGAA       7560
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836

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ATCATGAGAT AATGTTGAAC GACTAACGTA AAGTTCATCA GCTAAATCAT CAAAAAGAAC   7620

TGGAACTTGC TCAAATAATA ATTTATTTAA GATAAATACT AAACGATCAT CACCTTTTGA   7680

AACCGCAGTT TTCGTATAGT CTTCTTCCAG TTCATAAGTT TGTCTAAACT CCTGGTAAGC   7740

GCCTTGATTC TCAAAAAATA TTTGATACCC TTGACCTTGT TTTGAAATCA ACCGGACTCC   7800

TTGAATAATC ATTGTCTTCT CAATTAATTT CAGTACATTA CGGACAGTTC TATCTGAACA   7860

GGATAAATAT TCTGCCAGTT CTTTGCTTGT AACAAAACGT TCCTTATTTT TTATTAAAAA   7920

TTGAAGGATA TCTTTCTCTT TAATGTTTAA CACATTCATT CCCTCCTAAA ACGTATGTTT   7980

TCATATATTG AAGCATATTA TACACTTAAA TCAGTTTATA TCAAACTCAA AACAATTTAT   8040

CTTAACCTAA ATATTTATTG ACATTTCATG TGTTCATCAA ATATTCTCAA GAATCAAATT   8100

AGCCATTTTT TCAATTCCCA TTGGAATAGG AATATAGGCT TGAGGAGGTA TTTGTACAAC   8160

TGGTTTTCCT GCTTTAGAAC CAGCCTCTTC AAATTGCTTA AAGTACATTT TTGTTTGAGG   8220

ACTGACAAGA TACAAATCAA AAGCTGCTGC TGCGATAGCT TTCCCTCCTT CAGTAGCACT   8280

AATAGCATCA ACTACAATAT CTTTCCCTTT TCCTTTTAGA AACTCTGTTG TTTTCTGTGC   8340

CATAAGTGAT GAAGACATTC CTGCTGCACA AATAATTAAA GCTTTTGCCA TAATATTTTC   8400

TCCTTTTCTT AAATCCAATC AAAGCTGTGC TAAGTTGGCT TATTTGTTAT CTATTTTTAT   8460

TATAAAATAA AGCGTTTCCA ATGACAATTC CCTCATTTTC CTAAATGATA TGGAAAAAAA   8520

TTATTTATAC TTCAATTTAT AAAATAAAAT TATTCCTGAG AGTAGAAATG AAACACTATT   8580

TGCTAAAATC AAAGGCAAGT CTCCTATACG AATACCATGA GCAAGCCACA ATGCAATACC   8640

AATAACTTGC ATAACATACA TACCTAGAGC AATAGATCCT GTGTCCTTTG TCTTAACTAC   8700

ACGAAAAACT TGTGGTAAAA ATGCAAATGT TGTTAAAATT GCTGCAATAC TTCCAATCAT   8760

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TGATTCACCG TTAGATGAAA TAACTTCCTT ATACCAGCCA AAAGATTTTT TCGGGGAACG   8880

ATTATAACTT CCCTTCCCAT TATCATCTTT ATCTACATAA ATAAAGCCAT AACGTTTCCG   8940

CATTTCACCG GTACCAGCTG AAACCAAATC AATACATCCC CATGGAGTAT AACCCATTAA   9000

ATCAACACCA TCTTCAACTA CAGCCTTTTT CATTTCACGA ATATGGGCAC CTAGATATTC   9060

AATTCTATAA TCATCATGTA CCATACCATC TGCTGCAACT TGATCTATAG CTCCAAAACC   9120

ATTTTCAACA ATAAAGAGTG GTAAGTGATA GTGGTCTGTA AACCAATTTA ACGCATAACG   9180

CAAACCTTCT GGATCAATTT GCCACTCCCA TTCAGAAGCC TTAACATAAT TATTTTTCAC   9240

TAAATCTTCT GTTTCAAGAT AATCAAAATA AGGATTATTT TCACGATGAG AGTCGATAGC   9300

AAAGGACATA TAGTAACTGA AACCAATGTA ATCTACAGTC CCACCAAGTA AATCTTCTTT   9360
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837

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ATCCTGGGCA GTAAAATCAA CTGAAATACC TTTTCGTTCC CAATACTTGA AAATATGCTC      9420

AGGATATTTA CCTAAAACAT GCACATCAGC AAAATAATAA CGCTTCTGCA TAGCTTTCAT      9480

TGCCATTAAG ATATCCTTAG GATTGCAAGT AACTGGATAA ATTGGACACA TCGCAATCAT      9540

ACAACCTATT TGAAAATCTG GATTAATCTC ATGACCAATT TTTACAGCTC GTGCAGAAGC      9600

AACTAATTCG TAATGTGCTG CTTGATACAT AATTGCTTCT CTATTATCAC CTTCCTCATA      9660

TACAATACCT GAGTTAGTAA ATGGTGCAAA ATCTTCCTGA TAATTCGCTT GATTATTGAT      9720

TTCATTGAAA GTCATCCAAT ATTTAACCTT ATCTTTGTAA CGTTTAAATA CGACTTCTGC      9780

AAAACGAGCA AAGAAATCAA TCAATTTCCT ATTTTTCCAA CCACCATATT CGGTCACTAA      9840

GTGATAAGGC ATTTCAAAAT GAGATAGAGT GATGACAGGT TCAATACCAT TCTTTAAGCA      9900

TTCATCAAAA AGATTATCAT AAAACTGTAA TCCTTCTTCA TTCGGCTCTA ACTCATCACC      9960

TTTTGGAAAG ATACGTGTCC ATGCAATAGA GGTACGGAAG CACTTGAATC CCATTTCAGC      10020

AAAAAGTGCT ATATCTTCTT TATAACGGTG ATAAAAATCT ATCGCCTCAT GATTTGGATA      10080

ATATTTACCC TCTAAAACTC CCAAAGTAAT TTCACGAGCT ACTCCATGAC GACCAGCAGT      10140

CATAACATCA GCAACACTAA TTCCCTTGCC ACCTTCTTGC CATCCACCTT CAAGTTGATG      10200

AGCAGCAACA GCACCACCCC ATAAAAATCC ATCTTTAAAA GTAGTCATCT TTTTTCCTCC      10260

TGACTTTGAT ACTCTTATTA TAAACCTTAA ACCAAAAGAT GAAAACGCAT TCTTTTTCCT      10320

TATTGTTAAG GAAAGAAGTA ATTTTTAATG GAAATAGAAC AATATCTTCT TGTATTCTCG      10380

TAATGATATC TTTACGATTT TCAATACTTT CAAACTACAA AAACTCTCAC AATAATTCTA      10440

ATTCCCTGTG TCTATAAACG ACTTATCGCT TTCTGGCATC CCAGAATCAT CTTCTATATA      10500

ACGTTCAACT TGCATCTGCA AGTGATATTT TTTTCTTAAA TCTAAGATTT TCTGCATTGT      10560

CTTTGATTGA TAATGTTTAT CTAAAGTTTC TTGATTTATC CACTGATCAA TAAGGAGAAT      10620

AGTTCCCTCT TTTTCAATTG GTAAAAAATA TTCGTATTTC AAGTTACCTT TTTGATTTCT      10680

AATTTCTTTA ACAAGGCCAC TATCAAGCAT TTCTCTTGCA AACTTTATTG CACTATCTCC      10740

ATCACCTTTA TAATATACAT GAATAGTCAA TGTCATCTTA TATCCTCCAA AATCATCCTT      10800

CAATTTTAAA AAAACAAGTT TAGATGAGGA TCTAAACTTG TTTTTTATGA ACTAATTATC      10860

TAACGTTTCG CCATTACTTT CAATCACTTC TTTATACCAA TAAAATGATT TTTTCTTATA      10920

GCGATTTATA GTCAATTGAA ACAAGAGCAG GACAAAAGAG CCTCATAAAA GGTATTGCAA      10980

CTTGGTAATA CCTTTTTGAG GTGCTTTTTG ATATGAGCCC ATGTTTTCTC AATAGGATTG      11040

TACTCAGGTG AGTAGGGAGG AAGAGGTAAA AGTTTATACC CAAACTCTTC ACACAAGAGT      11100
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838

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TCTAGCTTCC CCATTCTATG GAATCTTGCA TTATCCATAA TAATAACCGA TGGTGTGGTT    11160

AATGTTGGTA AGAGAAACTT CTGAAACCAA GCTTCAAAAA AGTCGCTCGT CATCGTCTCT    11220

TCGTAAGTCA TTGGAGCGAT TAACTCACCA TTTGTTAGAC CTGCAACCAA AGAAATCCTC    11280

TGATATCTTC TTCCAGATAC TTT                                           11303
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(2) INFORMATION FOR SEQ ID NO: 116:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 3112 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

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CCTTAGATTT CCACTTGCCA GAGGAATTGA TTGCCCAAAC GCCCCTTGAA AAACGTGATG      60

CCTCCAAACT CCTCATCGTC AACCGTGAGA CAGGAGAAAT GCAAGATAAA CATTTCCACT     120

CTATTATTGA TATGCTGGAA CCTGGTGATG CCCTTGTCAT GAACGACACC CGAGTTCTCC     180

CTGCCCGCCT CTATGGTCAA AAAGTGGAGA CAGGAGGTCA TGTGGAACTT CTCCTCCTTA     240

AGAACACTAG TGGAGACGAG TGGGAAGTTC TGGCTAAACC TGCCAAACGC CTCAAGGTCG     300

GTACTCGTAT CAGCTTTGGT GATGGCCGCC TCAGCGCTGT CGTTACAGAA GAATTGACCC     360

ACGGGGGACG CATTGTCCGC TTTGAATACC AAGGAATTTT CCTAGAAGTC TTGGAAAGTC     420

TGGGAGAAAT GCCTCTGCCA CCTTATATCC ACGAAAAATT AGATGACCGT GAACGTTATC     480

AAACCGTCTA CGCCAAGGAA AGTGGCTCTG CTGCAGCACC GACTGCTGGT CTTCACTTCA     540

CCAAAGAACT GCTGGCAGAA ATCCAAGCTA AGGGTGTTCA TCTAGTCTAT CTGACTCTCC     600

ATGTCGGACT CGGAACCTTT AGACCTGTTT CTGTGGATAA TCTGGACGAA CACGAAATGC     660

ACTCAGAGTT CTATCAACTT TCTGAGGAAG CTGCTGCCAC CCTTCGCTCT GTCAAAAAAA     720

ATGGTGGTCG TGTCATCGCT GTCGGAACCA CTTCTATCCG CACCTTGGAA ACTATTGGTT     780

CCAAGTTTGA TGGGCAAATC CAAGCAGATT CTGGTTGGAC CAATATCTTT ATCAAACCTG     840

GGTATGAGTG GAAGGTCGTG GATGCCTTCT CAACCAACTT CCACCTGCCA AAATCAACTC     900

TGGTCATGTT GGTTTCTGCC TTTGCAGGCC GTGAATTAGT CTTAGATGCC TACCACCATT     960

CCATCCAAGA ACACTACCGC TTCTTCAGTT TTGGTGACGC CATGTTTATT TATTGAGAAA    1020

GAATTTCTCT AAATCTTCTA ATACCAATAA ATCGCTAAGA TATTATTTCA AAGAACATCT    1080

ACAATTGAAA CTCTAGCTAG CTGTAGAAGA GGCCTAGTAC ATTGAAATTA AAATGCTTCC    1140

CCCTAGCTTC GAAAATATTG CCATAGATTG CGTTGACTCT CCAAATTGAT TCATCTATAT    1200
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839

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TTTATTTCAG CTTCCTATAC TTTCTTCGCT GTTTGTAAAT CAAAATGCAA GACACATGAG    1260

TAGCACCATA TTTGTTACTC TTATCTGTCC TCTCAAGAGA CTATTATGAG TTATTTCAGA    1320

ATCATTCACT ACTTTGACCC TGACTCTCCT TAGTCTCAAA ATCAAAGACT TATACTCTTC    1380

AAAAATCTCT TCAAACCGCG TCAACGTCAC CTTGGATTAT ATATGTGatC TGaCTTCGTC    1440

AGTTCTATCT ACAACCTCAA AGCAGTACTT TGAGCAACCT GCGACTAGTT TTCTAGTTTG    1500

CTCTTTGATT TTCATTGAGT ATTAAACAAA AAGTGAACAA ATCTGAATTC TAATGTACAG    1560

AAGACTAGGC TTGTTCACTT TTTTATAGTC GCTATAAGAT GACCTTATCT ATAGCTTTTT    1620

ATATATAATT ATATATTCAG ACATACTATT ATCAATTTTG TCGCAGGGAG GAATCTGTTA    1680

ACGCACCCAT TCACCATTAT CATTGACTCT ATAGCCATCT ATACTTGTAT TGACCGCTAA    1740

CTCACCCGAT GTATTTACAT AATACCATTT ACCACCAACT TGGAACCATT GATTGACTTT    1800

CATAGAACCG TTGCTGTTGA GGTAGTACCA TGAACTATTA ACTTGTACCC AACCTGTTGC    1860

CATGGAACCA TCAGTATTAT AAAAATACCA CATACCATTT TCTTGTTTCC AGTCTGTTGT    1920

TGGAGCAACT GCTTTAGCTG GTTCTACTGC TACATCTGTT CCTTGGTTAG ATGTAACAGA    1980

TACAGGATAC GAAGGAATAG ATGATTGCTC AGGAACAACA ACTTTTTCAG GTTCTCTCGT    2040

CCCTCTCCTT ATACGTCTTT TTACCATCTC TTTAGTAATT TGACGAGAAG TAGTTTCTTC    2100

AATTGTTCCA TCACGTTCAT CTACAGTATA GATTGTAGTA AGAGTAATTT ACCAATTTCT    2160

CCTACTTCTT CTACTTCTTG ACTTTTATCA AGAGTTGGGC CATCGAGATA TTCTGTTTCG    2220

ATTGGAATTT CTTGGACAAG AACTTGGGGC TTGGTTCTTT TTTTAACAAC TCTTGTTTGA    2280

GAGTCTTTTT TTTGACTTAA AGTACTCTCA GTTACTTGTC CACTCTTTCC ATCTACATTA    2340

TAAGTTATCG TTGTAACTGT TTTCCCATTC TTTCCTAGAG TAATCTCTTG CTCCTGTCCT    2400

GCAGAAAGGT CATTGTCTGC TTCATATTTA GTAGCAAATG GAACAAGAAC TTCTTCAACC    2460

TTGCTTTTAG CTGGAACTTT GATAACTGTA TCCGTGGCTT CTTTTCTATC AACAGTAACC    2520

TGTTCGGTAA CATAACCAGT CTCTGGATTA ACATCGTAGG TCCTTGTCGT AGTTACATAG    2580

CCATCCTCTC CATCAATTGT AACAGGATTT TCACTACGGT CTTTTGTTTC ATCTTTTTCA    2640

TAACGAATTC GCGTACTTGA AATTTTCTTG GTTACTACCT TAGGTTTAGT CGCTACTTTT    2700

ACAATAATAT CCCCATTGTC AGCGTCATCA TACTCTATTC CCTCTTCTTT ATCTCTAGTA    2760

TCATCTCTGA CATATTGAAT CCCATCAGCA GCATGAACAA AACTTGTATT CAGATTCCTC    2820

CTAAAAATAA AGTTAGCCCG ATTACCGCAG AACCAAAAAT CTTTCCGAGT TTACGTATTG    2880

CATAGCGCTT ATTAGTATTA GATTTTGCCA TTACATCCTA CTTCTAGTAT AGCATCTTTT    2940
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840

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CTATCAAACG TTAAACAATA TACGTTATAT ATAAAATAGA CTTAGAATGA TATATTGATT        3000

ATTGAACTAA CACTTTAACT ATATCGTAAT CAATCTCATA TATAAAGGAT TGCAGACATC        3060

TTATCTAAAT ACATGCGAAT ATATTTAGAT ACAAACATTC CAACTTGATA AT               3112
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(2) INFORMATION FOR SEQ ID NO: 117:

          (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 4327 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: double
              (D) TOPOLOGY: linear

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

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CCCAAAAATC TCTTCAAACC ACGTCAGCTT CGCCTTGCCG TAGTATGGTT ACTGACTTCG         60

TCAGTTCTAT CCACAACCTC AAAACAGTGT TTTGAGCATC ATGCgGCTAG CTTCTTAGTT        120

TGCTCTTTGA TTTTCATTGA GTATAAAAAC AGATGAGTTT CTGTTTTCTT TTTATGGACT        180

ATAAATGTTC AGCTGAAACT ACTTTCAAGG ACATTATTAT ATAAAAGAAT TTTTTGAAAC        240

TAAAATCTAC TATATTACAC TATATTGAAA GCGTTTTAAA AATGAGGTAT AATAAATTTA        300

CTAACGCTTA TAAAAAGTGA TAGAATCTAT TTTTATGTAT ATTTAAAGAT AGATTGCTGT        360

AAAAATAGTA GTAGCTATGC GAAATAACAG ATAGAGAGAA GGGATTGAAG CTTAGAAAAG        420

GGGAATAATA TGATATTTAA GGCATTCAAG ACAAAAAAGC AGAGAAAAAG ACAAGTTGAA        480

CTACTTTTGA CAGTTTTTTT CGACAGTTTT CTGATTGATT TATTTCTTCA CTTATTTGGG        540

ATTGTCCCCT TTAAGCTGGA TAAGATTCTG ATTGTGAGCT TGATTATATT TCCCATTATT        600

TCTACAAGTA TTTATGCTTA TGAAAAGCTA TTTGAAAAAG TGTTCGATAA GGATTGAGCA        660

GGAAGTATGG TGTAAATAGC ATAGGCTGAT GTCCATCATT TGCTTATAAA GAGATATTTT        720

AGTTTAATTG CAGCGGTGTC CTGGTAGATA AACTAGATTG GCAGGAGTCT GATTGGAGAA        780

AGGAGAGGGG AAAATTGGCA CCAATTTGAG ATAGTTTGTT TAGTTCATTT TTGTCATTTA        840

AATGAACTGT AGTAAAAGAA AGTTAATAAA AGACAAACTA AGTGCATTTT CTGGAGTAAA        900

TGTCTTATTT CAGAAATCGG GATATAGATA TAGAGAGGAT CAGTATGAAT CGGAGTGTTC        960

AAGAACGTAA GTGTCGTTAT AGCATTAGGA AACTATCGGT AGGAGCGGTT TCTATGATTG       1020

TAGGAGCAGT GGTATTTGGA ACGTCTCCTG TTTTAGCTCA AGAAGGGGCA AGTGAGCAAC       1080

CTCTGGCAAA TGAAACTCAA CTTTCGGGGG AGAGCTCAAC CCTAACTGAT ACAGAAAGA        1140

GCCAGCCTTC TTCAGAGACT GAACTTTCTG GCAATAAGCA AGAACAAGAA AGGAAAGATA       1200

AGCAAGAAGA AAAAATTCCA AGAGATTACT ATGCACGAGA TTTGGAAAAT GTCGAAACAG       1260
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841

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TGATAGAAAA AGAAGATGTT GAAACCAATG CTTCAAATGG TCAGAGAGTT GATTTATCAA    1320

GTGAACTAGA TAAACTAAAG AAACTTGAAA ACGCAACAGT TCACATGGAG TTTAAGCCAG    1380

ATGCCAAGGC CCCAGCATTC TATAATCTCT TTTCTGTGTC AAGTGCTACT AAAAAAGATG    1440

AGTACTTCAC TATGGCAGTT TACAATAATA CTGCTACTCT AGAGGGGCGT GGTTCGGATG    1500

GGAAACAGTT TTACAATAAT TACAACGATG CACCCTTAAA AGTTAAACCA GGTCAGTGGA    1560

ATTCTGTGAC TTTCACAGTT GAAAAACCGA CAGCAGAACT ACCTAAAGGC CGAGTGCGCC    1620

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GGTCAAATCT ACAGATTCGG AATCTCACTG TGTATAATCG TGCTTTAACA CCAGAAGAGG    1800

TACAAAAACG TAGTCAACTT TTTAAACGCT CAGATTTAGA AAAAAAACTA CCTGAAGGAG    1860

CGGCTTTAAC AGAGAAAACG GACATATTCG AAAGCGGGCG TAACGGTAAC CCAAATAAAG    1920

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CAGGTGCAGA TGAACGCCGT CTCCATTCGA GTGACTGGGG TGATATCGGT ATGGTCATCA    2040

GACGTAGTGA AGATAATGGT AAAACTTGGG GTGACCGAGT AACCATTACC AACTTACGTG    2100

ACAATCCAAA AGCTTCTGAC CCATCGATCG GTTCACCAGT GAATATCGAT ATGGTGTTGG    2160

TTCAAGATCC TGAAACCAAA CGAATCTTTT CTATCTATGA CATGTTCCCA GAAGGGAAGG    2220

GAATCTTTGG AATGTCTTCA CAAAAAGAAG AAGCCTACAA AAAAATCGAT GGAAAAACCT    2280

ATCAAATCCT CTACCGTGAA GGAGAAAAGG GAGCTTATAC CATTCGAGAA AATGGTACTG    2340

TCTATACACC AGATGGTAAG GCGACAGACT ATCGCGTTGT TGTAGATCCT GTTAAACCAG    2400

CCTATAGCGA CAAGGGTGAT CTATACAAGG GTGACCAATT ACTAGGAAAT ATCTACTTCA    2460

CAACAAACAA AACTTCTCCA TTTAGAATTG CCAAGGATAG CTATCTATGG ATGTCCTACA    2520

GTGATGACGA CGGGAAGACA TGGTCAGCTC CTCAAGATAT TACTCCGATG GTCAAAGCCG    2580

ATTGGATGAA ATTCTTGGGT GTAGGTCCTG GAACAGGAAT TGTACTTCGG AATGGGCCTC    2640

ACAAGGGACG GATTTTGATA CCGGTTTATA CGACTAATAA TGTATCTCAC TTAGATGGCT    2700

CGCAATCTTC TCGTGTCATC TATTCAGATG ATCATGGAAA AACTTGGCAT GCTGGAGAAG    2760

CGGTCAACGA TAACCGTCAG GTAGACGGTC AAAAGATCCA CTCTTCTACG ATGAACAATA    2820

GACGTGCGCA AAATACAGAA TCAACGGTGG TACAACTAAA CAATGGAGAT GTTAAACTCT    2880

TTATGCGTGG TTTGACTGGA GATCTTCAGG TTGCTACAAG TAAAGACGGA GGAGTGACTT    2940

GGGAGAAGGA TATCAAACGT TATCCACAGG TTAAAGATGT CTATGTTCAA ATGTCTGCTA    3000
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842

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TCCATACGAT GCACGAAGGA AAAGAATACA TCATCCTCAG TAATGCAGGT GGACCGAAAC     3060

GTGAAAATGG GATGGTCCAC TTGGCACGTG TCGAAGAAAA TGGTGAGTTG ACTTGGCTCA     3120

AACACAATCC AATTCAAAAA GGAGAGTTTG CCTATAATTC GCTCCAAGAA TTAGGAAATG     3180

GGGAGTATGG CATCTTGTAT GAACATACTG AAAAAGGACA AAATGCCTAT ACCCTATCAT     3240

TTAGAAAATT TAATTGGGAA TTTTTTGAGCA AAAATCTGAT TTCTCCTACC GAAGCGAACT    3300

AGAGAGATGG GCAAAGGAGA GATGGGCAAA GGAGTTATTG GCTTGGAGTT CGACTCAGAA     3360

GTATTGGTCA ACAAGGCTCC AACCCTTCAA TTGGCAAATG GTAAAACAGC GACTTTCCTA     3420

ACCCAGTATG ATAGCAAGAC CTTGTTGTTT GCAGTAGATA AGGAAGATAT CGGACAGGAA     3480

ATTATTGGTA TAGCTAAAGG AAGCATCGAA AGTATGCATA ATCTTCCTGT AAATCTAGCA     3540

GGTGCCAGAG TTCCTGGCGG AGTAAATGGT AGCAAAGCAG CGGTGCATGA AGTTCCAGAA     3600

TTTACAGGGG GAGTTAATGG TACAGAGCCA GCTGTTCATG AAATCGCAGA GTATAAGGGA     3660

TCTGATTCGC TTGTAACTCT TACTACAAAA AAAGATTATA CTTACAAAGC TCCTCTTGCT     3720

CAGCAGGCAC TTCCTGAAAC AGGAAACAAG GAGAGTGACC TCCTAGCTTC ACTAGGACTA     3780

ACAGCTTTCT TCCTTGGTCT GTTTACGCTA GGGAAAAAGA GAGAACAATA AGAGAAGAAT     3840

TCTAAACATT TGATTTTGTA AAAATGGCTC TTTGTCAACT GTAGTGGGTT GAAGTCAGCT     3900

AAGCTCGAGA AAGGACAAAT TTTGTCCTTT CTTTTTTGAT ATTCAGAGCG ATAAAAATCC     3960

GTTTTTTGAA GTTTTCAAAG TTCCGAAAAC CAAAGGCATT GCGCTTGATA AGTTTGATGA     4020

GATTATTGGT CGCTTCCAAT TTGGCGTTAG AATAGTGTAG TTGAAGGGCG TTGACGATTT     4080

TCTCTTTGTC CTTTAGAAAG GTTTTAAAGA CAGTCTGAAA AAGAGGATGA ACCTGCTTTA     4140

GATTGTCCTC AATGAGTCCG AAAAATTTCT CCGGTTCCTT ATTCTGAAAG TGAAACAGCA     4200

AGAGTTGATA GAGCTGATAG TGATGTTTCA AGTCTTGTGA ATAGCTCAAA AGCTTGTTTA     4260

AAATCTCTTT ATTGGTTAAA TGCATACGAA AAGTAGGGCG ATAAAAATGT TTATCGCTGA     4320

GTTTACG                                                              4327
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(2) INFORMATION FOR SEQ ID NO: 118:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3521 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

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CTCTGGCCCT GCCACTCCAA CGTTTTGTCA GGGTGCTTTT TTCATAAAGG AGTTCTTATG      60
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843

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TTAGATATCA AACGTATTCG TACAGATTTT GAAGCTGTCG CAGAAAAATT AGCTACACGT     120

GGTGTAGATG CTGCTGTCTT GAATGAAATG AAAGAAATCG ATGCTAAACG TCGTAACATC     180

TTGGTCAAGG TTGAAACTCT CAAAGCAGAA CGTAACACAG TTTCTGCTGA GATTGCCCAA     240

GCTAAGCGCA ACAAGGAAAA TACAGATGAC AAGATTGCTG CCATGCAAAA TCTATCTGCT     300

GAGGTTAAAG CCTTGGATGC TGAATTGGCA GAAATCGATG CTAAATTGAC AGAATTTACA     360

ACGACTCTTC CAAATATCCC AGCTGACAGC GTTCCTGTTG GGGCTGACGA AGACGACAAT     420

GTGGAAGTTC GCCGTTGGGG TACTCCACGC GAGTTTGACT TCGAACCTAA AGCTCACTGG     480

GATCTCGGTG AAGACCTTGG TATCCTTGAC TGGGAACGCG GTGGTAAGGT AACAGGCGCT     540

CGCTTCCTCT TCTATAAAGG CCTCGGTGCT CGTTTGGAAC GTGCTATCTA CAACTTTATG     600

TTGGATGAAC ATGGAAAAGA AGGCTATACT GAAGTCATCA CACCTTACAT AGTCAACCAT     660

GATTCTATGT TTGGTACTGG TCAGTATCCA AAATTTAAGG AAGATACTTT TGAACTCAGC     720

GATACCAACT TTGTCTTGAT TCCAACTGCT GAAGTTCCTC TGACAAACTA CTACCGTGAT     780

GAAATCTTAG ACGGCAAAGA TCTTCCAATC TACTTCACTG CCATGAGTCC GTCATTCCGT     840

TCTGAGGCTG GTTCTGCCGG TCGTGATACG CGTGGCTTGA TCCGTTTGCA CCAATTCCAC     900

AAGGTTGAAA TGGTCAAATT TGCCAAACCA GAAGAATCTT ACGAAGAATT GGAAAAAATG     960

ACAGCCAACG CTGAAAACAT TCTTCAAAAA CTCAACCTTC CATACCGTGT CGTTGCTCTC    1020

TCTACTGGAG ATATGGGCTT CTCAGCTGCG AAGACTTACG ACTTGGAAGT GTGGATTCCA    1080

GCACAAAACA ATTACCGTGA AATCTCAAGC TGTTCAAACA CAGAAGATTT CCAAGCCCGT    1140

CGTGCCCAAA TCCGTTACCG TGATGAAGCA GATGGCAAGG TGAAACTCCT TCATACCTTG    1200

AACGGTTCTG GACTTGCAGT TGGACGTACA GTGGCTGCAA TTCTTGAAAA TTACCAAAAT    1260

GAAGATGGTT CTGTGACCAT CCCAGAAGCA CTTCGTCCAT ACATGGGTGG AGCTGAAGTC    1320

ATCAAACCAT AAAAAAATAAG GTTTAGCTAT TTCTAGCTAG ACCTTTTTTC GTAACCAAAT    1380

CAGATAAGCA CCTAGTACAA AGAATAAAAT AGTTAGGCAT ATAATGGTTT CAGCCAATAC    1440

CAGGTAATCC AGAAATGGAA GTTTCAAAAT TCCCTGAGCC ATCTTGAGCG AGGTCGCTGT    1500

GATAATGGTT GGGAAGGTGA GGGCTGAGAA GGCTGGTTGA AAACCTTGTT TTAAAATGTT    1560

GGGCAGACGA GTTAAAACAA AGAAAAAGAA GGATTGAGAA GCCAAAATCA TGACAATCAA    1620

GACCCAAGTC GGCAGGCTGG TTCCTCCTAC TCGAACTAGA GAAGCCAAGA GTAGAGAGAA    1680

AGGAGCACAG TAGATTCCTT CTTGTCCAAG CAAGGCTAGT GGGAGTGGAT GTTTCTTTAA    1740

ATCGCTATAA ATAAGGGGAT AGAGATAGAA GGTCAAGAGA AAACCAAAAC TCAAGGTCGC    1800
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844

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ATAGGCAATT TCGATAATAC CTACCAGAGG ATAGGTCAAG GCAGCCACTG CTATCCCCAC    1860

ATAGAGAACC GTCCAGCTTG GAGTGGCATG AACCCTCCGC CCTGGACAAG CAAACTTGAT    1920

GGTAAAACCA GCAATCAAGG TCAAATCCAA GAGAAATGAA AACCACCAAA TCCCTTGTGC    1980

TACCAAAGGA AGATAAGAGA ATACGCGAAA GACATAGGTC GATAAAATCA TCCCAGCCAT    2040

AGGAAAGGTT GCCATTCCTG ACAAAAGAGG GGGCTTGGTC AATTCTTGCT TGGTTTCTTT    2100

CCAATTAAAG AGATGCAGAA TTAGAAAGTA AATCCATAAA ACCAAACCAA TCAGACTAAA    2160

AAGATGGGAT AGAACCGGCA ACGTATCTAA AATAAGATTT CCAGCTCCTG CCAAACCTAG    2220

CAAACAACCT GAAAATACTA AGGGGAGTTT TTTCATCCTA ACCTCCAATA ATCATGTTAG    2280

TTTCAGTATA ACATAAAAGC GCTTAAATGA GGATTTAAAA AAACGAGTCC GCTTATTTCA    2340

GACTTCATTT TACTCAGATA TGAATTAGGC ATAAGGTTGC AATTCTGGAT TAATTGGTGT    2400

ATTAGCTAAG TTGTTGGCAT AGTTACAGAG GATTGCTAGG CTGACACCAA AAACCACATC    2460

CAAGGCATTT TGTTGAGTGT AGCCAGCTTC TAAAAACTCA GACAAGGCTT CATCTCCTAC    2520

ACGACCCTTG GTATTGATAA CTGCCAAGGT AAACTTAGCT AGGGTATCCA ATTTAGGATC    2580

TGTTTCAATT GGAGTACGAT TGCGAAGAGC TTGAATCAAG TCATCATTCA TCTGGATTTG    2640

TTTGATGGAA AAGGCTGTGT GACCTGCGAC ACAGAAGGCA CAACCATTGG TCACGGCTGC    2700

CGTGATTTGC ACCACTTCAC GCTCAACGGG TGTCAGGCTG TTGCGACGGT GGATAGATGA    2760

GACAATTTGG TAGGCTTCTA AAACAGTCGG GGCATTGGCC AAGAGACCGA TTAGGTTGGG    2820

AATATAGCCA TTGTTGTCTT TTTCTACTGT TTCAAGAATT TCTTTCACTT CTGCTGGTGC    2880

TGACTCTACT GTATGGATAG TAAATGTTGT CATAAGATAC CTCTTTTCTT ATTATTGACA    2940

CTAATATTAT TGGAAAATCT TATAAAATCC TGATTCCTAA GTTTATCTAA GATAAAGCTT    3000

TATTCTCTCA TAAGATTTTC GTTGTTATAT TAGTTTATCA CACTTCCAAT CACTTGTATA    3060

ATATATATTA TATATCAGGC TGATAAAAAT TATTTATAGG CAAAAAAATC ACACGAGCTG    3120

TGTGATTCCA TTATTTGTCA AAATACTTTT TAGTTTCAGC AATAACGACT GGCGACAAGA    3180

CCAAGAGGGC AATCAAGTTT GGCAGAGCCA TCAAGGCGTT AACGATATCT GCGATAATCC    3240

AGACCATATC CAACTCGATA AATCCTCCTA ACAAGACCAT GAGCACAAAA ACCACACGGT    3300

AGAGCCAGAT AAAGCGAACC CCAAAGAGGA ACTCAAAACA GCGTTCTCCG TAATAGTTCC    3360

AACCTAGAAT CGTTGTAAAG GCAAAAAGTA CAAGGAAGAT GGTCAAGAGA GCAGGCCCAA    3420

AGTGTGAAAA GTTTGTTGAG AAAGCTGACT GAGTCAAGGC AACCCCATTC AAGTCACCGC    3480

TCCAAACTCC AGTTACCAAG ATGGTCAAAC CAGTTAGAGT A                        3521
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(2) INFORMATION FOR SEQ ID NO: 119:

845

(i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1968 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

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AACCTGGGCA AGCAAGCTAA AAGCAATGGG ACCTGGAATC CTAATGGCAA CTGCCGCTGT          60

TGGAGGTTCC CACATTGTAT CCTCAACTCA AGCTGGCGGT TCTTACGGTT GGTCTCTACT         120

TCTCTTGGTC ATCTTAGCCA ATGTCTTTAA ATATCCATTT TTCCGTTTTG GTGCTGAATA         180

CACAGCTGAT ACTGGAAAGA CTTTGGTTGA AGGTTATGCC GAAAAAGGAA AACTCTATCT         240

CTGGATTTTC TTTATCCTCA ATGTCTTTTC GGCTATGGTC AACACGGCTG GTGTTGCCAT         300

TCTGTGCTCA GCTATCATCG CCAGTGCCTT CCCAATGATT GGACTTAGCA TTACTCAGTG         360

GTCCCTCATT CTCGTTGCAA TCATTTGGGC TATGCTACTC TTTGGAGGCT ACAAACTTTT         420

AGACGGCATG GTCAAATGGA TTATGTCTGC CTTAACCATT GCGACTGTTC TTGCAGTTAT         480

CATTGCGGCG GTCAAGCATC CAGAATACAG TTCTGATTTT GTCGAGAAGA CACCTTGGCA         540

AATGGCAGCT CTGCCCTTCA TCGTCTCCCT CCTAGGATGG ATGCCGGCTC CTATTGAAAT         600

TTCAGCCATC AATTCACTTT GGTCAGCTGA AAAGAGAAAG ACCGTCAACT TTAACACAGA         660

AGACGCTCTG TTTGACTTTA ACACTGGTTA TATTGGAACA GCTATCCTAG CCGTCTTCTT         720

TGTGGCACTG GGAGCACTGA TTCAGTATCC TACAGGGCAG GCGGTTGAAG CTGCTTCAGC         780

CAAATACATC TCTCAATTCG TGGGCATGTA TGCCTCTGTT CTTGGCGAAT GGTCCCGTTA         840

CTTGATTACC TTTATTGCCT TCCTCTGTAT CTTTGGAACA GTTATAACTG TTATCGATGG         900

CTATTCTCGC GTTAATCAGG AATCTCTCCG ACTGCTAATC AGTCAAAAAG AGGACAATCG         960

TAAATCTTTG AACATCTGGA TGACCATCAC TGCTATCATC GGTATCGTCA TTATCAAGTT        1020

CTTCGCTGGT CAGGTTTCAA CCATGCTCCG CTTTGCCATG ATTGGCTCTT TCCTGACAAC        1080

ACCTTTCTTT GCTCTTTTGA ATTACGCCTT GGTAACGCGT GAAAACAAAA ATCTTCCTTC        1140

TTGGCTCAAA CACCTTGCCA TTGCGGGATT GATTTTCCTC TTTGCTTCGC CATCTTCTTT        1200

ATCTACGCAC TCGCAATCGG AAAAGCAGGG TAAGGGACAA GCGCGAGATG AAGATAAGGT        1260

TTCATTTCAA GAGAAAATTC AGCAAATATT TCTATGATAA AAAGCATAAG AACAAGGTTT        1320

TGAAGACCTG AACTTATGCT TTTTTACGTT CTTAAAGACT GTTTATACTC AAAAAACAGT        1380

TGAACAACTT CAACCACCTC TTATAAGAAC TTTATACTAT TCGAGAATCT CTTCAAACCA        1440
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846

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CGTCAGCTCT ATCTGCAACC TCAAAGCTGT GCTTTGAGCA ACCTGCGACT AGCTTCCTAG       1500

TTTGCTCTTT GATTTTCATT GAGTATTAAT TCTCCTTTTC CAACTCATAC AAATCTGCGA       1560

TAATAGCTGC GACATGTTTG ATATCTTCCA GCATGCCTCG CATTTCAAAG TCAGCCAATA       1620

CAGGGAAGCC AAAGCGTTGA CTGTATTGCT TGGCTGTTAG GCAGTATTGG TTATTAAAGT       1680

TACGATTTCC TGACCCAACC ACACCAAAAC ACTTACTAGC ATTGTTACCA TAGGCAATAA       1740

AATCTCCCAC CGGTGTCGTC AAAATCTCAA CATCTCCGTT ATCCACGCCA TTCCCACCTT       1800

CGAGATAGGT CGGCAAAAAA GCGACATAGG GATGGTCCAT TTCATAGAAA TTTTTGCCTT       1860

CCTTGACCAA ATCCTTGATA TGAATCTTTT GAACCTCAAT CCCTTTGTAC TGGGACAAGA       1920

GATAGTCTTT CAAGCGCGTC ACAAAACTTT CAGTGTTGCC ACTCAAGG                    1968
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(2) INFORMATION FOR SEQ ID NO: 120:

            (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 7172 base pairs
                (B) TYPE: nucleic acid
                (C) STRANDEDNESS: double
                (D) TOPOLOGY: linear

            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

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CCGCATTTTT TATCACTAGA CTCGAGACAT CTTTTGAGTG GCTCTTGCTC TCTGGTTTAA        60

TTTTCTTCCT TGCTCAAGGA CTCCTGCTAT TTCTCTTGGT CGTCCGACTC AAACATCAAT       120

TCGCTGAGAT TTATCCTCAA ATCAATAAAA AGATTCGCTT CTACTATTTA GGGGTTCTCA       180

CCATTGATTT TCTATTTTTT GTTCTCTTAG CCTTCATTAG TTCTCAGCGT TTTTCATCTC       240

TTATGCCAAT CATCACTGCT TGCCATTCTA CTTTTTATTA TATGACAGCT GACTACCTAA       300

GAGAAAACTA TCCAGACTTT TACGACAAAC ACATCTCTTT ATGGGAGTGT CTCTAAAGAA       360

AAGGAGGTTT TAGCATGAAA AAAATCATCT TCATCAAAAC CATTCAACTC CTTGTCATTG       420

ATGGAATCAT GCTGGCATTT TTGACATTTA AAAGGGGGCT TACTTGGGAC TGGATTTTGA       480

TTTATAGCGG TTGGCTCATT TTCTTTCATC CTGTGCTATT GACCTATCTT TCAAACCAAC       540

TTTGTGACCA CTTTAGTTAA CTCTATTCCC AGATTAGACC GAGATTCTGG CGTTTTGCTT       600

TACAAATTCT CCTATGGGAT AGCCTGATGA TTCTCTCCTT GGTGTCTTTA AGTGATATTC       660

CACTTTTCCT TCAGGGAACT CTCCTCATCC TAGGACATCT CATCCCTTCC TATCGCATCT       720

GCCAAAGCCT GAAAAGAGAC TTCCCCCAAG CATATCAAGA ACCGATTTCT TTTTGGAGTA       780

TTTTATGATA GATGAGAAAG ACCAAGCCGA CTGGGCTTGG TCTTTCTTAT CTCTTTTTAG       840

TATCTAGGAT AATGGTAACA GGTCCATTAT TAACCAGCTC AACCTGCATA TCTGCTCCAA       900
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847

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AGATGCCTGT CTGAACGGGC ACTTCTTGCG CTAATTTTTG ATTGAAAGCA TCATAGAAGT    960

CTGATGCCAT ATCAGGTTTA GCTGCCCCTG TAAAGgCTGG ACGATTGCCT CTCTTAGTAT   1020

CCGCAAAGAG GGTAAACTGA GAAATAGAGA GGATTTCTCC TTCAATATCT TTGACAGACA   1080

GGTTCATCTT GCCTTCTGCG TCTGAAAAAA TCCGCATATT GACCAGTTTT CTCACAGCAT   1140

AGTCCAAATC TTCCTCTTGG TCCTCTGGTC CAACACCAAC CAGCAATAAA AGTCCCTGAT   1200

TGATTTTTCC CTGAATCTGG CCTTCTATAC TCACTTGGGC TTTTTTAACC CGTTGGATAA   1260

TGATTTTCAT AATAGCCTTT CTAGTAAGAG CTAGGACAAC TAGCCGTTGG TCCGTTTGAC   1320

AGAGTAAACT TCTGGCACAC TCTTAATTTT ATCGACAACC GTGGTCAGTG TAGAGAGGTT   1380

GGCAATACCG AAGgACACAT GGATATTAGC AAACTTCATA TCCTTGGTTG GTTGGGCATT   1440

GACCGTTGAA ATATTCTTGG TTGTATTTGA AAGAACTTGC AGTACATCGT TCAACAGTCC   1500

TGTACGGTTG AGACCGTAGA TATCGATATG GGCCATATAC TCCTTATTTG AGCTAGGGTA   1560

CTGGTCTTCC CATTCCACAT CAAGGAGACG TTGCTCGTAG TTTTCTTGGG CACGCAGGTT   1620

CATACAGTCC ACACGGTGAA TAGCCACACC ACGACCCTTG GTAATGTAGC CAACAATATC   1680

GTCACCAGGC ACGGGGTTAC AACACTTAGC AATCCGCACT AGGAGACCAG AAGCACCTTC   1740

AATAACCACT CCCCCCTCAT GCTTGACCTT GAGGGTTTCT TTATTTTCAA CCTTGACCTC   1800

GCCACCTTTG ACAAGCTCCT CTGCCTCAGC TTTGGCCTTG GCACGCTCTT CCTCACGGCG   1860

TTCCTTTTCA GTCAGACGGT TAAAGACGGT AATCGCACCG ATTTCCCCAA AACCAATGGC   1920

CGCAAAGAGG GAGTCTTCTG TCTTGTAACT GGTCTTTTGC AGAACTTGAT CCATGTGGCG   1980

CTTGTCCATA AATTTATTTG CCACATAGCC ATTTTCTTGG AACTGAGCCA TCAGCATCTC   2040

ACGACCCTTG TTGACAGACA ATTCCTTATC TTGGTTTTTA AAGAACTGGC GAATCTTATT   2100

GCGCGCCTTG CTAGTCTTGA CCATATTGAG CCAGTCACGG CTAGGTCCAA AGGAGTTCGG   2160

GTTGGCGATA ATTTCAACCT GATCCCCTGT CTTTAACTTG GTTGTCAGTG GAACCATGCG   2220

GCCATTGACC TTGGCACCAG TTGCTTTTTC ACCGACCTTG GTATGGATTT CGTAGGCAAA   2280

ATCAATCGGT CCTGAATCTT TGGGAAGGGA ACGGACAGCT CCATCTGGGG TAAAAACGTA   2340

AATCTCCTCA GCCAAATAGT TTTCCTTAAC AGAGTCCACA AATTCCTTAG CATCATCAGC   2400

CTGGTCTTGG AGCTCCATCA TCTCCTTGAT CCAGTTCATT CCAATAGCTG ATTCCTTGCT   2460

GTTAACTTGC CCCTTTATAC CTTTCTTATA AGCCCAGTGA GCCGCAACCC CGTACTCAGC   2520

CACCTCGTGC ATTTCCTTGG TTCGAATCTG GAATTCAATC GGCCCTTTTG GTCCATAAAC   2580

AGTCGTATGG ATAGACTGAT AACCATTGGC CTTGCGGTTG GCGATATAGT CTTTGAAGCG   2640
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848

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ACCTGGCATC GGTTTCCAAA ATTCATGCAC GTAACCAAGC ATGGCATAAA CATCACTTTG        2700

GGTATCTAAA ATACAACGAA TAGCAATCAG ATCATAGATT TCCTCAAACC GTTTTCTCTT        2760

GTCCTGCATT TTGCGGAAAA TTGAGTAAAT ATGCTTGGGA CGACCATAAA TCTTCCCTTT        2820

CAAGTGACGT TCTGTCGTAT ACTCCTCTAA TTTTGTGACT ACCTCATCCA CCAAGGCCTC        2880

ACGCTCCCTG CGCTTTTCCT TCATCATATG GGTAATCTTG TAAAACTCCG TTGGATTGAG        2940

ATAACGGAAA GACAAGTCTT CTAATTCCCA TTTGACACTG GAAATCCCCA AACGATGGGC        3000

AAGCGGGGCA TAGATTTCCA TGGTTTCTTT GGAAATACGC TCCTGCTTGT CTTTTCGAAG        3060

ATGTTTCAGG GTCCGCATAT TGTGCAAGCG GTCAGACAGT TTGACCAAAA TAACGCGGAT        3120

GTCCTCAGAC ATGGCCATGA GCATCTTGCG ATGATTTTCC GCTAATTGCT CCTCGATCGA        3180

TTTGTACTCG ACCTTGCCAA GCTTGGTAAC TCCGTCAACA ATCATCCGCA CATCAGGACC        3240

AAACTCTCTT TCCAAATCGT CCAAAGTCGC ATCTGTATCT TCCACCACAT CATGCAAGAA        3300

TCCACAAGCT ACTGTTACAG CATCCAGCTT TAGCTTAGCT AAAATACCTG CCACTTGGAT        3360

AGGGTGAATG ATATAAGGCT CGCCTGATTT GCGATATTGA CCACTGTGGC ATTCAACAGC        3420

ATAGACCAAG GCCTTATGGA CAAAATGAAC ATCCTCTTCC GTTAAATATT CTTTGGTTAA        3480

AGCGACAACT TCTTCGCCTG TTAAATTCAC TTCTTTCGGC ATCTCTACTC TCCAATTCTT        3540

CCTACCATTT TATCACTTTT TTAAGAATAT GAAAACTAGA TTGGAACAGA ATAAGAAAAA        3600

AATAATTCAA AATTGCTTGA TAATTCTGAA TTATTGGTCC GTAATATACT ACGAAGTTAG        3660

ATTTTAAACT TAGGTGATAG AAGGAGAGAT AGAAGAACGG AAACCATATT GTAACCCAAA        3720

GACTTTCTGA CTTCCCCAAT TCCATTGAAG ATACGAAAGA TAAACGGTGG AACTCGTATC        3780

ACATACACTG GTACCTTGAC TGGATTTTGG AATTAATACT AAATGAAAAT CAAAGAGCAA        3840

ACTAGGAAAC TAGCCGCAGG TTACTCAAAG CACCGCTTTG AGGTTGCAGA TAAAGTTGAC        3900

GCGGTTTGAA GAGATTTTTG AAGAGTATAA AAATCCTCAA GATACTTTCT TCTATCCTTT        3960

AGTTTATAAG GAGAATACCT ATGAAAAAAA CTGCTATTTC TATCTTTGCT CTCCTAATGT        4020

TAGGAGTTTG CTGCCTGTTC CTATTCAGCC AGCAAAGCTA TAAAAAACAG TCGTTCAATA       4080

CTATGCTAAC GACCAGAACC TGCCCAGTAG GATAACTTAT AGTGAATATA GCGACAAATG        4140

AGAAGCCAAC TACGGTAGCA CTCTAAACAT CACGTCTATC AAACAAGCTA ATGACGGAGT        4200

TTATGCAACC TATGAAGGGC AATTGACACC TTTCCAATAT TGATAAATTG ATAACCAGCC        4260

TGTCTTCATC TAGTCATGCT GGTTTTTAAG TTCATTTTAA ATCCTTACCT ATTCTCCCTA        4320

ACTGTGCTAT ACTTAATTTA TACTCAATGA AAATCAAAGA GCAAACTAGA AAGCTAGCCG        4380

CAGGCTGTTC AAAGCACTGC TTTGAGGTTG CAGATAAAGT TGACGCGGTT TGAAGAGATT        4440
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849

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TTCGAAGAGT ATTAGTACAT TCTTTGAGAT TGGAGCTAGT ATGAAAATCC ATAAAACCGT    4500

GAATCCTGTT GCCTATGAAA ATACCTATTA TCTAGAAGGC GAAAAGCACC TCATCGTCGT    4560

CGATCCTGGT AGTCATTGGG AAGCCATTCG TCAGACAATC GAGAAGATCA ACAAACCGAT    4620

CTGTGCTATT CTCTTGACCC ACGCCCATTA TGACCATATC ATGAGTCTGG ACTTGGTTCG    4680

CGAGACGTTT GGCAATCCTC CTGTCTATAT CGCAGAGAGC GAAGCCAGCT GGCTCTACAC    4740

TCCTGTCGAT AATCTCTCCG GTCTCCCTCG CCACGATGAT ATGGCAGATG TGGTCACAAA    4800

ACCTGCAGAA CACACCTTTG TCTTTCACGA AGAATACCAA CTAGAGGAAT TTCGTTTTAA    4860

GGTTCTACCG ACCCCAGGGC ACTCTATCGG TGGTGTTTCC CTAGTCTTTC CTGATGCTCA    4920

TCTAGTCTTG ACGGGAGATG CTCTATTCCG CGAAACTATC GGACGGACCG ACCTTCCGAC    4980

TGGTAGCATG GAGCAACTCC TTCATAGTAT CCAGACCCAA CTCTTCACCC TACCAAACTA    5040

CGATGTCTAT CCAGGACATG GTCCAGCTAC TACTATCGCT CACGAAAAGG CCTTCAATCC    5100

CTTTTTCTAG CAAGATGATG ACAATCGAAA TTTAAGTAAA CTATCCAGCA AATCTTTCTA    5160

TTACAAAAGG CATCCTATCA AGGTTTTCAC ACATGATTGG ATGCCTTTTT TCTGATGACT    5220

AGATTTTTTG CATTACCAAA TAATCACGCG CTCCTCTGGT GAACGCCACA TTCCGTCTCC    5280

TTCTTTGACA TCATAGGTTG TAAAGAAATC GTCGAAGTTT GGTACTTGCA CATTGACACG    5340

GAGTTTGGCT GGTGCGTGCA CATCGACGCT AGCCAAAAGT TTCATAAATT CTGGTCGACC    5400

TTTCATGCGC CAGATGCGAC CGAAGTTGTA GAAGAACTCT TCTGCTGAGA AGTCTGCTTC    5460

TCTCTTAGCT GCTTCAAGCG CTGCTGCGAT TCCTCCCAAG TCAGCCACGT TTTCTGATAC    5520

AGTCAATTTA CCGTTAATGG TTGCTCCATA AGAATCCTGT CCATCAAATT GGTCAATGAC    5580

TTTTTGTGTT TTCTCCTTGA AGGCAGCATA GTCGCTCTCT GTCCACCAAT CCTTGAGGCT    5640

ACCATTTTCG TCAAAGGAAG CCCCGTTAGT ATCAAAGGCG TGGGAAATTT CATGGGCAAT    5700

CACTGCCCCA ATACCACCGT AGTTAGCAGA AGATGACTGA TGCAAGTCAT AGAAAGGCGC    5760

CTGTAAAATG GCCGCTGGAA AGACAATCAG GTTCTTCTGA GGATTGTAGT AGGCATTGAC    5820

CATATGAGCA GGCATGCCCC ATTCCTTATA ATCTACAGGC TGGTTCCACT TACTCCAACT    5880

GTGCTTGATT TCCACACGCG CAAAGGCTAG AGCATTCTCA AAAAGACTGG CAGTTTCATT    5940

CACTACCTTA TCCTTGTAAC GTGCAGGCAA TTCTTCTGGA TAGCCAATAT AAGGTTTGAT    6000

CACATTGAGC TTCACGATAG CCTGTTTACA GGTTTCTGGA GTGAGCCAGT CATTCTTAAG    6060

CAGACGCTCC TTATAAACAT CAATCATGGT TGCCACTTTT TTCTCCACAT CCGCCTTGGC    6120

TTCTGGAGAG AACTTCTCAC GGGCGTACCA AAGACCCAGG GCTTGCTTGA AAGGTTCTTG    6180
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850

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TGCTAGATGA TAAGCTGCTT TGACCTTATC TTTTGCCTCT GGAACTCCAG AAAGGGCACG    6240

GCTGTAGGCA CCAGACAAAA CACGGATATC CTCTGTTAAA TAGCTGGTTG AAAGATTGAC    6300

AACACTCAAA ATCAAGGTTG CTTTAAGGAG AGACCAGGCT TCCTCACTGT AGAATTGCTC    6360

TGCTGCTTGC CAGAAACGTT CCTCGTCTAC AATAACCTTG TCTGGTAATT GCCCAATAAC    6420

TGCTTTGAAG AAGTCATCCA AAGGTAGGGC AGGCGCGAAT TTCTTGAAAT CTTCGTAAGA    6480

ATATGGATGA TAGAGTTTAG CATATTCTGA ACTTTCTTCA TTAGAGAGCA CCACTGCCGC    6540

AACTCGGCGG TCCAATTCAA GTCTTTTTTC TAGCAAGTCT TCAATTTCTT CATCAGAGAA    6600

ATCATAAGCC TTGAGGAGAT TTGCGCTGCT TTCTTTCCAA AGAGTCAAGA GCTCTTCGCG    6660

CTGAGGATGT TCTTCTGCAT AGTAGGTCGT ATCTGGCAAG ATTGTGCTTG GAGCGCTAGC    6720

CCATAGAACA TTGATTCTAG CATCCATAAA GTCTGGCGAT ACACCAAAAG GAAGGAAGTT    6780

TGGTTTTCCT GCAAGCTCAA ACTCTGCTAG TTTAGCTGTA AAATCCGCAA AAGTCTCCAA    6840

TTCTTGGAAT TCTTTAAGGA GTGGTAAGAC AGGTGTGATA CCGTCAGCTT CTCTCTTGTC    6900

AAAATCACGA ACTAGGCGGT GGTATTTGAC AAAGTTTTCC AAGATAGCAT CCTCAGGCAC    6960

TTCTTCACCT GCTAACCACT TGTCTGTTGT CGCCAGCATC AGGTCTTCAA TTTCCTGGTC    7020

TAAATCAACA AAACCTCCTG TTTGAGACTT ATCTGCTGGG ATTTCAGCTG TCTGTTGCCA    7080

TTCTCCATTG ATAGCATCAT AAAAATCATC TTGATAACGT GTCATCTTGT TCTCGCTTTC    7140

ATTTGTATTT GCATTTATCT TAACAAAAAT CG                                 7172
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(2) INFORMATION FOR SEQ ID NO: 121:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4518 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

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CGGGAAGTTA TGCGATCTAG ACTTCGTTCC TGTACAGCTA CTTTCTCAGG TGGTCTTGTT      60

GTTTGTATGA GTTTGTTTAG AGAGGATCTT TCTATGTCTT TCTTTCTTAT TTTTGTTTTA     120

TATGCTTTTC TGATTTCTTA TCTAATTTAT GGTTATTTCA GACTAAAAAG GAAATACCGA     180

GTAGATGAAT AGCAAGGTTC TAGGTCTTCA GATTGATTTT TAGCACTCTT GATAAAAGAG     240

TGCTAATTTT TTGAGTTTTT GTCTTGACAT TCTCTTCTAA GGGTGTATAA TAGAATCATG     300

AGTTAGCACT TGGATGCATT GAGTGCTAAT TGATCAGACA GAGAGGAGTG ATGAGATGGT     360

TACAGAGCGT CAGCAGGATA TTTTAAATCT GATTATTGAC ATCTTTACCA AAACGCACGA     420
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851

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ACCTGTCGGA TCAAAAGCCT TGCAAGAGTC TATTAACTCT AGCAGTGCAA CCATTCGTAA     480

TGACATGGCG GAACTAGAAA AACAAGGGTT GCTTGAGAAG GCTCATACTT CAAGTGGTCG     540

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GGCTGAAAAT GAGGTATATG AGATTGTCAA AGCCTTTGAT CAGGAATTCT TCAAATTGGA     660

GGATATTCTG CAAGAGGCTG CTAACTTACT AACAGACCTG AGTGGCTGTA CGGTAGTGGC     720

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TTTCCTCGGT CACACCGTTT TAGATATTCA CTACAAGATT CGGACGGAGA TTCCGCAGAT     960

TATCCAGCGT TACTTTACAA CAACGGATAA TGTCATCGAT CTCTTTGAAC ACATCTTTAA    1020

GGAAATGTTC AACGAAAACA TTGTGATGGC GGGCAAGGTC CATCTCTTGA ATTTTGCCAA    1080

TCTAGCAGCC TATCAGTTCT TTGACCAACC GCAAAAGGTG GCCTTGGAGA TTCGTGAGGG    1140

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TGACCTAGCG GTAATCAGTA GTAAGTTCCT CATTCCTTAT CGGGGAGTTG GAATTCTAGC    1260

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CCGTGTTTTG ACCATGAAGT TGACAGATTT TTACCGCTAC CTCAGCAGTA ATCATTACGA    1380

AGTACATTAA GATTGAAATC ATTAAAGGAG GCGAACATGG CCCAAGATAT AAAAAATGAA    1440

GAAGTAGAAG AAGTTCAAGA AGAGGAAGTT GTGAAAACAG CTGAAGAAAC AACTCCTGAA    1500

AAGTCTGAGT TGGACTTGGC AAATGAACGT GCAGATGAGT TCGAAAACAA ATATCTTCGC    1560

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TGGCGTTTGC CTAGCTTCCT TACTAACTCG TCGTCGAAAT AAAATCGATT TCGACTCCTC    2160
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852

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CAACAAACTC AGCAGTTGCA GTTCTTGAAG GAACTGAAAG CAAAATCATC GCAAACCCAG      2520

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ATGCTGCAAA ACGTCAAGCA GTTACAAACC CAGATACAGT TATCTCTATC AAATCTAAGA      2640

TGGGAACTTC TGAAAAAGTT TCTGCAAATG GAAAAGAATA CACTCCACAA GAAATCTCAG      2700

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TTGCTTATGG TTTGGACAAG ACTGACAAAG AAGAAAAAAT CTTGGTATTT GACCTTGGTG      2940

GTGGTACATT CGACGTCTCT ATCCTTGAAT TGGGTGACGG TGTCTTCGAC GTATTGTCAA      3000

CTGCAGGGGA CAACAAACTT GGTGGTGACG ACTTTGACCA AAAAATCATT GACCACTTGG      3060

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ATATCCCAGC TGCACCTCGT GGAATTCCTC AAATCGAAGT AACATTTGAC ATCGACAAGA      3780

ACGGTATCGT GTCTGTTAAG GCCAAAGACC TTGGAACTCA AAAAGAACAA ACTATTGTCA      3840

TCCAATCGAA CTCAGGTTTG ACTGACGAAG AAATCGACCG CATGATGAAA GATGCAGAAG      3900

CAAACGCTGA AGCCGATAAG AAACGTAAAG AAGAAGTAGA CCTTCGTAAT GAAGTAGACC      3960
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853

AAGCAATCTT TGCGACTGAA AAGACAATCA AGGAAACTGA AGGTAAAGGC TTCGACGCAG   4020

AACGTGACGC TGCCCAAGCT GCCCTTGATG ACCTTAAGAA AGCTCAAGAA GACAACAACT   4080

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GTATTGGATG AAGAGTATCT AAAAAATACA CGAAAAGTTT ATAATGATTT TTGTAATCAA   4320

GCTGATAACT ATAGAACATC AAAAGATTTT ATTGATAATA TTCCAATAGA ATATTTAGCT   4380

AGATATAGAG AATTATATTA GCTGAACATG ATAGTTGTAT CAAAAATGAT GAAGCGGTAA   4440

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CGAACGTTCA GCTTATAT   4518

(2) INFORMATION FOR SEQ ID NO: 122:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8145 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

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CAGCTATTAT TGCCTTTGTT CTCAACTATG CAGCTTACTT TGCAGAAATT TTCCGTGGGG   240

GAATTGACAC TATTCCAAGA GGACAGTATG AGGCCGCCAA GGTCTTGAAG TTTAGCCCTT   300

TTGACAGAGT GCGCTATATT ATCTTGCCCC AAGTGACCAA GATCGTTCTT CCTAGTGTCT   360

TTAATGAAGT TATGAGTTTG GTCAAGGATA CTTCTTTGGT CTATGCTCTC GGAATTTCAG   420

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TGGCAGGAGC CATTTATTTG ATTTTGATTG GGATTGTGAC AATTATTTCC AAAAAAGTTG   540

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AAGTCTTTGG AGACAAACAA ATCCTGTCTA ATTTCAGTCT AAGTATTCCT GAAAAGCAAA   660

TCCTGGCTAT CGTTGGACCT TCTGGTGGAG GTAAGACAAC TCTTTTACGT ATGCTTGCAG   720

GTCTTGAAAC CATTGATTCA GGGCAAATCT TTTATAATGG ACAACCTTTA GAGCTGGATG   780

854

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AGGCTGAGAA GAAGGCGAGT GGACTCTTGG AACAGTTAGG ACTAGGAGGA CACGCAGAGG        960

CCTATCCTTT CTCACTATCT GGTGGGCAAA AGCAGCGGGT GGCTTTGGCG CGTGCTATGA       1020

TGATTGACCC AGAAATCATT GGCTACGATG AACCAACTTC TGCCCTGGAT CCAGAATTAC       1080

GTTTGGAAGT GGAGAAGCTA ATCTTGCAAA ATAGGGAACT TGGGATGACC CAGATTGTGG       1140

TTACCCATGA TTTGCAGTTT GCTGAAAATA TCGCAGATGT ATTATTGAAA GTAGAACCTA       1200

AATAGGAGGA AAAATGGATG AAAAAATGGA TGCTTGTATT AGTCAGTCTG ATGACTGCTT       1260

TGTTCTTAGT AGCTTGTGGG AAAAATTCTA GCGAAACTAG TGGAGATAAT TGGTCAAAGT       1320

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TTTTTTGTAA TCTAGGAAAA CGATAATAGC GATTGAATAT GGATAATTGA ATATGGAATA       2160

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CAGCTACGAC ACCTGACAAT GTACCTGCAA ATTTACGGCA GTAAGGGCAA GTTTTGCGAC       2580
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855

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CGATAAAGAA GGTTGCAGTT TCTTTTTTAT CAAGAGCTTC TTGCGCACGC ACAACTGTAG    2640

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TTCTTTCTCG TTTCCACCTT TTGACTCAAT CAAACGAGCC AATCCTTCAG TAGCTTGGCG    4320
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856

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CTTCTCATAA CAAAACATTG ATATAGTTAC TTAGTTTTAA ACAAGCATAT TATAATAAAG       4740

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TGCGGCACAT TTTGATTGTG CTGTTCCTTC AGTATGGGCA GCTTTAAAGC AGATTAAGGT       5040

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GACGGATGTA TTAAGGGAAG TTCCAACTAT TTTTGAATGT TTGGAATGCT TTTTTAAAAC       5580

TAGATGACTA TAACGGTTCT AAAGGAACCT ATCGAGTAGT CATTAAAACT AAGGATACTG       5640

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857

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GCAAATGCCC TTAATAATGG TTGGGCTAGA TCTGGTTCTG AAGAGTTCAA AAAGTTCTCC        6420

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CTCCAAAAAC TGAAACTCCA GTGAATCCAG ACCCAGAAGT TCCGACTTAT GAGACAGGTA        7860
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858

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TCATGACCTT GTTAGCTGGT CTAGGATTAG GATTTTTCAA GAAAAAAGAA GATGAAAAAT   7980

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TTGAGAACGA GGTCTTTCGT AAAGAATAAA AACGCTTACA AGTCTGTTGA ACTGGGAAAC   8100

TATGAATCCT ATTTTTTTAA AAATATTTCC AGAAATCAGT TGCGG   8145

(2) INFORMATION FOR SEQ ID NO: 123:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8697 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

CGGTACCGGG AACGATACTT AGTCTAATTT TGCACCTTTT CCATGTATGG TAAAGGTTTT   60

TCTTTTTTTA AAAAGGAAAA CGAGAAGAGG AGGTTCTTAT GAAAGCAAGC ATTGCCTTGC   120

AAGTTTTACC CCTAGTACAG GGGATTGATC GGATAGCTGT TATTGATCAG GTCATTGCTT   180

ATCTGCAwAC TCAAGAAGTG ACGATGGTAG TGACACCATT TGAAACGGTC TTGGAAGGGG   240

AGTTTGATGA GCTTATGCGC ATTCTAAAAG AAGCGCTGGA AGTGGCAGGG CAGGAGGCAG   300

ACAATGTCTT TGCCAATGTC AAAATAAATG TAGGAGAGAT TTTAAGTATT GATGAGAAAC   360

TTGAGAAGTA TACTGAGACG ACACATTAGT CTATTGGGCT TTCTCGGAGT ATTGTCAATC   420

TGGCAGTTAG CAGGTTTTCT TAAACTTCTC CCCAAGTTTA TCCTGCCGAC ACCTCTTGAA   480

ATTCTCCAGC CCTTTGTTCG TGACAGAGAA TTTCTCTGGC ACCATAGCTG GGCGACCTTG   540

AGAGTGGCTT TACTGGGGCT GATTTTGGGA GTTTTGATTG CCTGTCTTAT GGCTGTGCTC   600

ATGGATAGTT TGACTTGGCT CAATGACCTG ATTTACCCTA TGATGGTGGT CATTCAGACC   660

ATTCCGACCA TTGCCATAGC TCCTATCCTG GTCTTGTGGC TAGGTTATGG GATTTTGCCC   720

AAGATTGTCT TGATTATCTT AACGACAACC TTTCCCATCA TCGTTAGTAT TTTGGACGGT   780

TTTAGGCATT GCGACAAGGA TATGCTGACC TTGTTTAGTC TGATGCGGGC CAAGCCTTGG   840

CAAATCCTGT GGCATTTTAA AATCCCAGTT AGCCTGCCTT ACTTTTATGC AGGTCTGAGG   900

GTCAGTGTCT CCTACGCCTT TATCACAACT GTGGTATCTG AGTGGTTGGG AGGTTTTGAA   960

GGTCTTGGTG TTTATATGAT TCAGTCTAAA AAACTGTTTC AGTATGATAC CATGTTTGCC   1020

ATTATTATTC TGGTGTCGAT TATCAGTCTT TTGGGTATGA AGCTGGTCGA TATCAGTGAA   1080

AAATATGTGA TTAAATGGAA ACGTTCGTAG AATTAGAATG TTTCTGAAAA AGAAAAGAGG   1140

859

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AAATCAAAAT GAAGAAAACA TGGAAAGTGT TTTTAACGCT TGTAACAGCT CTTGTAGCTG    1200

TTGTGCTTGT GGCCTGTGGT CAAGGAACTG CTTCTAAAGA CAACAAAGAG GCAGAACTTA    1260

AGAAGGTTGA CTTTATCCTA GACTGGACAC CAAATACCAA CCACACAGGG CTTTATGTTG    1320

CCAAGGAAAA AGGTTATTTC AAAGAAGCTG GAGTGGATGT TGATTTGAAA TTGCCACCAG    1380

AAGAAAGTTC TTCTGACTTG GTTATCAACG GAAAGGCACC ATTTGCAGTG TATTTCCAAG    1440

ACTACATGGC TAAGAAATTG GAAAAAGGAG CAGGAATCAC TGCCGTTGCA GCTATTGTTG    1500

AACACAATAC ATCAGGAATC ATCTCTCGTA AATCTGATAA TGTAAGCAGT CCAAAAGACT    1560

TGGTTGGTAA GAAATATGGG ACATGGAATG ACCCAACTGA ACTTGCTATG TTGAAAACCT    1620

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TCAAGGAGTT TGACTACTAT TCACCAGTTA TCATCGCAAA CAACGACTAT CTGAAAGATA    1860

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AGAAATTAGA CTAGAGCACG TCAGTTATGC CTATGGTCAG GAGAGGATTT TAGAGGATAT    2220

CAACCTACAG GTGACTTCAG GCGAAGTGGT TTCCATCCTA GGCCCAAGTG GTGTTGGAAA    2280

GACCACCCTC TTTAATCTAA TCGCTGGGAT TTTAGAAGTT CAGTCAGGGA GAATTGTCCT    2340

TGATGGTGAA GAAAATCCCA AGGGGCGCGT GAGTTATATG TTGCAAAAGG ATCTGCTCTT    2400

GGAGCACAAG ACGGTGCTTG GAAATATCAT TCTGCCCCTC TTGATTCAAA AGGTGGATAA    2460

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CCTGATCATC ACGCATAGTA TTGAGGAGGC CCTCAATCTC AGCGACCGTA TCTATATCTT    2760

GAAAAATCGC CCTGGGCAGA TTGTTTCAGA AATTAAACTA GATTGGTCTG AAGATGAGGA    2820

CAAGGAAGTC CAAAAGATTG CCTACAAACG TCAAATTTTG GCGGAATTAG GCTTAGATAA    2880
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                                             860
GTAGAAAAAT AGGGAGTTGG TGAAGATTAT CCTTTACCAG CGCCCTTTTT CTTTTAAAAA    2940

TGAGAAAATT TCGGTATAAT AGTCAAACAA GGTCAAGGTT TAAAGAGAGA GGTGGGTTTG    3000

TTATGAGATT TAAAAATACA TCGGATCATA TTGAGGCCTA CATCAAGGCG ATTTTAGATC    3060

AATCTGGTAT CGTGGAGTTG CAACGGAGTC AGTTGGCAGA TACCTTTCAG GTTGTTCCTA    3120

GTCAGATTAA CTACGTGATC AAGACACGCT TTACGGAAAG TAGAGGCTAC TTGGTTGAAA    3180

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ACAGTAGCTG ACAAGCAAAA TTCTATGGCC AATATGATGG GCATGCCGCA GACTCCTAGT    4020

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CCAGTCATCG GTCGGGACAA GGAAATCTCA CGTATGATTC AAATCTTGAG CCGGAAGACT    4140

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CTCCACACCA TCATGGGTTC TGGTAGCGGG ATTGATTCGA CTCTGGATGC GGCCAATATC    4440

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GAAGAACCAA GTGTGGCAGA TAGTATGACT ATTTTACAAG GTTTGAAGGC GACTTATGAG    4620

AAACATCACC GTGTACAAAT CACAGATGAA GCGGTTGAAA CAGCGGTTAA GATGGCTCAT    4680
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861

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CGTTATTTAA CCAGTCGTCA CTTGCCAGAC TCTGCTATCG ATCTCTTGGA TGAGGCGGCA    4740

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GACAAGGCCC TGATGGATGG CAAGTGGAAA CAGGCAGCCC AGCTAATCGC AAAAGAAGAG    4860

GAAGTACCTG TCTACAAAGA CTTGGTGACA GAGTCTGATA TTTTGACCAC CTTGAGTCGC    4920

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GAAGCAGAAC TCCATAAACG GGTTATCGGT CAAGATCAAG CTGTTTCAAG CATTAGCCGT    5040

GCCATTCGCC GCAACCAGTC AGGGATTCGC AGTCATAAGC GTCCGATTGG TTCCTTTATG    5100

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AATTTTTATT CTTTCAAAAG AGACCTGTTT CTTTTTTGCA TGTCAAATCC GTTCTAGCTG    6240

GTATTTGAAA AATCAAACTA ATATTCAATG AAAATCAAAG AACAAACTAG GAAGCTAGCC    6300

GCAGGTTGCT CAAAACACTG TTTTGAGGTT GTAGATAGAG CTGACGTGGT TTGAAGAGAT    6360

TTTCGAAGAG TATAAGCTGC AAGATGAATG ATTTTCTTGT ATTGACGTTG TTGTTGACAA    6420
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862

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TCAAATAGCA TACAGGAAAT AGATGTATGG AGTTCTGGTA GTAGAAAGGG AGAGAGATGA      6540

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AAGAGGGTTA TCATGTCATT ATGGCTAAGG ATGGACAAGA GGTCTTGGAA AAATTTCAAG      6660

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CATTCATATA GCTATTTATT TGACCTTTCC TTTTTATTAT ATTCAACTGG AGGGGGAAAA      7320

GTTTAATGAG AGCGCAAGAG TGTTTACGGA GTATTTAAAG ACTAAGACAT CTGATGAAAT      7380

TCCAAGCTTA CTCCAGTCTT ATTCAAAGTC CTTGACCATA TCTGCTCACC TTAAAAGAGA      7440

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GCAATTTGTT CACGGGGTGG ATGTCTACAA AGAAGCAAAG AATATTTTGC TTTTGTATCT      7620

CCCATATACA TTTTTGGTTA CAATTGCTTT TTCCTTTGTT TTTTCTTATT TTTATACTAA      7680

ACGCTTGCTC AATCCTCTTT TTTACATTTC AGAAGTGACT AGTAAAATGC AAGATTTGGA      7740

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CAAAGATCAT CCAAAATATA TTGCAAAGAG TATAAATAAG ATTGACCAGA TGAGCCACTT      8040

ATTAGAAGAA GTACTGGAGT CTTCTAAATT CCAAGAGTGG ACAGAGTGTC GTGAGACCTT      8100

GACTGTTAAG CCAGTTTTAG TAGATATTTT ATCACGTTAT CAAGAATTAG CTCATTCAAT      8160

AGGTGTTACA ATTGAAAATC AATTGACAGA TGCTACCAGG GTCGTCATGA GTCTTAGGGC      8220
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ATTGGATAAG GTTTTGACAA ACCTGATTAG TAATGCAATT AAATATTCAG ATAAAAATGG    8280

GCGTGTAATC ATATCCGAGC AAGATGGCTA TCTCTCTATC AAAAATACAT GTGCGCCTCT    8340

AAGTGACCAA GAACTAGAAC ATTTATTTGA TATATTCTAT CATTCTCAAA TCGTGACAGA    8400

TAAGGATGAA AGTTCCGGTT TGGGTCTTTA CATTGTGAAT AATATTTTAG AAAGCTATCA    8460

AATGGATTAT AGTTTTCTCC CTTATGAACA CGGTATGGAA TTTAAGATTA GCTTGTAGAC    8520

AGATTAGTTT TTTATTAAAG TTCATATAGG GTTAACATAA GTGTGTTATT CTTTGTGTAG    8580

ATAAAAGAAA GGATACTAAT ATGGTATTAG CGATTATTTT AGTAACATTC TTTATTCGAT    8640

TGATTTTTTT AAAGCGTTCG ATAGAGAATG AGAAACGAAT CCTTAGCAAT GGCGGGG       8697
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(2) INFORMATION FOR SEQ ID NO: 124:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4317 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

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AACCATACAT ACGGCAAGGC AAAGCTGACG CGGTTTGAAG AGATTTTCGA AGAGTATTAG      60

TTGCCTTTAA AGGCATCCAC CATCGTTTGA AATTCTTCAT TTGAGAGAGT AATCCCTTTG     120

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AAGCTCACAC GGTTAATTTC CTTGGTCCAA CCTTTTTCGT TTTCAGAAAG AGTCAACAAG     240

TGCTCTTCGA TTTCAAATGT AAATTCTGCC ATTTTCTTCT CCTTTTTTAG TTTCATTAGT     300

TTATTCGTAA AATCTTGTAG ATTTTAGGAA AATTTTATAT AATATTGATA TAAAAGAAGG     360

GAGGCCAATA TGAGACATAA ATTCCAGCAA GTTCTAAATA AAATACATGA TTTTTTAAAT     420

GGATATGACC AACCTGACCA GACTGAAACC AACTCCCTTA CAGCCACTAT TGAAGAGGCT     480

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CGGATTATCC GTATAAGCGA TATTCAACGC CTGCGATTTG TCCCCTCAAC TGTCCAAACA     660

GCCCAAAAAA ATAGATTTAA GAAAGAGTGA GATGTAGTTG CTTCATCCCA CTCTTTTTTC     720

TTAGCGAATT TGTTCAAAAT GTAAATGAAC TGCGATATGA TCTCCATAAC CACTTCTTTC     780

CAAGTCACGT TGTAAACGAT AGGAAATGTA GTGTTCTGCA ATGGTAATGT AACCTGCGCC     840

CAATAAACGA TGTTCAACCA TAGATTGAAT CATACTGATA GTCGCACGTT CCACCTTGGC     900
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864

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TTCTTGTAAA TCCAAAACTA CCTTCTTAGT GACTTGAGCA AGATTTTGAC GCAAATCATC      960

TGTCAAAACA TAAACAGTTT GGGCTGCCTT CAAGATGGCT TGGTAAATCT TATCTGGATT     1020

AAATTCAGCA ATTTCGCCAT TACGTTTGAT TACTTGCATA GGTTTCTCCT TTATTCTTTG     1080

TTTTCTTTGA TTTCTGCCAG CATTTTTTCT TCTTCTACTG TCAGTTGATA ATGTTCAAGT     1140

AAATCCGGTC TGCGCTCGTA GGTTTTCTTT AAACTCTCGT ACAATCGCCA CTGACGAATC     1200

TTTTCATGGT GGCCACTCAT CAATACATCT GGCACGACCA TGCCTCGATA ATCATAGGGA     1260

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TCCTTGCCAA TCACTTCTGG AATCAGGCGA ACTGTAGCAT CAATCATGGT CATAGCTGCC     1380

AATTCTCCAC CAGTGAGGAC ATAGTCACCT AGGGAAATCT CATCTGTTAC CAAGGTCTTA     1440

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AAATCTTCAG CATAAGCCTG ATCAAACTGC TTTCCAGCAG GATCAAGGAG AATAACGCGC     1560

GGATTTTTCT TTTCAATAGC ATCAAAGGAA TCGAAAATAG GTTGTGCTCT GAGCAACATG     1620

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TTTTTCTTGC ATTAATTCCC AGATTTTTTT ATTCGTTTCA GGACTAAATG TTGCTTGAGT     2640

TAAGTTCTTA AAATAAAGTT CAGGACCACA CTCGTCAATC AGCCTCATCT GCTCTTCCAT     2700
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865

TTCTGGATAA GGATTTTCTG AAAAATCAGC AAACATGACT TTTTTAGTTG TCGGTTCAAT   2760

TGCTACTAAA GTCTGACGCT TAATTGGTTT CTCGAGTAAT TTGCAAGCTA AAATTCCACT   2820

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AAAATTTAGA ATCGTGGAAT TTTTTCAATA CGCCTTCTTT TGAAAGGATG TTACGTACTG   4020

TGTCTGAAGG TTGAGCTCCA TTAGCCAACC ATGCAAGAAC GCGGTCTTCT TTCAAAGTTA   4080

CTTGGTTTTC AGCAACAAGT GGGTTGTAAG TTCCAACTGT TTCGATGAAA CGTCCGTCAC   4140

GTGGTGAACG TGAATCTGCT ACGTTGATAC GGTAGAAAGG TTTTTTCTTA GAACCCATAC   4200

GAGTCAAACG GATTTTAACT GCCATTTTTA AAGTCTCATT TCTTTAATTT TTTATTTCGG   4260

TGAAATAGCT GAGCTATTTA GCACATGTTC TATTATAGCA GATTTCTGGC ATGTGTC   4317

(2) INFORMATION FOR SEQ ID NO: 125:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4881 base pairs

866

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(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear
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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:

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CAACCTGAGG AAAGCAGTGA TTCTTATTTT AGGAGTTAGG AATGAATACA CGAAATCAAT        180

TTAGCTGATT ATTTTTTGTT TTTCAAGAAT TCATCGTATT GTTTTTGCAT TTCGTTCAAT        240

ACTTTTTCGT AGGCACCTTC AGATTTCAAT TTTTCCATCA ATTCTGGAAT CGCTTTATCT        300

GGGTCTACAG TACCAGTGTT GATAGCTGTA TCAAATTGTT GCATTGTGTT AGCAATAGCT        360

GAGATTTCAG ATTTCACATT GTCAGTATTG AAGATAAATC CAAGCGCTGG AGATTCTTTA        420

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TAAAGGATCC AGTTGTTACC AGTGTTCCAT CCACCCATGT GAGTGTTTCC TTTGTAGCCA        540

TCAAGAACGC GAACACGGTT TTCTTTACCT TCAATTTTTT CCCAGTTCTT GCCTTCTGGA        600

CCGTAAACAA GACCGTTCAA GAGTTCTGGG TTCGTATTCA AGAGGTTCAA GATTTCCATT        660

GATTTTTCTT TGTTCTTAGA GTTGTTTGAG ATGACAAAGT TAGCAACTTG TGTTGTTTGG        720

TTTTTCTTGA TGAAGTTAGT AATTGGTTTG ATTTGGATAT CTTTGTTGGC AACACGTGAA        780

AGCAAGCTGT TACCGTAGTC AGCTGGTCCT ACTGTTTCTT CACGAACGAA CCAAGTATCT        840

TGTTGAAGGT CAAAGGAAGT ATCGCTTGTT GCGACGTCTT TTGGAATGTA GCCAGCTTCA        900

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ACTTTAGTAG TATCGCCTTC AAGGTCGATA ACGAATGGAA GACCGTTTGC TACTGGGTAG       1020

TCAAAATTAT CAGATGGGAT GAAAACTTTA CCAATAGCAA ATGGTACTAC GTCTGGAGCT       1080

TTTTCTTTGA TTTGTTTCAA GACTGGCTCA AGAGTTTCGT AAGAAGTAAC ACCTGAAATA       1140

TCGATACCAT ATTTAGCAAG GAGAGTTCCG TTGAAGGCAA AGTTTTGAGA TGATGCAACG       1200

TTGGCTGCAA CTGGAACAGC GTAAATCTTA CCATTTACAG TATTACCCTT GATGTAAGCT       1260

GGGTCAAGTG CTTTGTAAAG GTCTTTACCT TCTTTTTTGT ACAATTCTGT CAAGTCAGCG       1320

TAAGCACCTT TTTGAGCATT TACAATATAG TTATCTGCAA AGGCAATATC ATAGTTTTCA       1380

CCAGATGATG TGATAACTGA CATTTTCTTA CCATAGTCAC CCCAGCCAAG GTATTGGATA       1440

TCCAATTTGG CACCAACTTT TTCTTCAATG ATTTTGTTGG CATTTGCTAA CAATTCATCC       1500

AAGTTGTCTG GTTTGTCACC GATTTGGTAC ATTTTGATAA CAGGTTTGTC ACCTGAATCA       1560
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867

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GCAGCTTTTT TGCTGTTACC TGTCAAATTT CCACAAGCAG CAAGACCTGC AGCCAGAGCG      1620

ACTACACTAG CAGATGCAAA AGCATATTTT TTCCAGTTTT TCATGATAAA AACTCCTTTT      1680

TTTATTTTTA AACTTATAAA CAATGTAATG ATCTTATACT CAATAAAAAT CAAAGAGCAA      1740

ACTAGAAAAC TAGCCGCAGG CTGCTCAAAG CACTGCTTTG AGGTTGTAGA TAAGACTGAC      1800

GAAGTCAGTT ACATATATCT ACGGCAAGGC GACGTTGACG CGGTTTGAAT TTGATTTTCG      1860

AAGAGTATTA ACTTCACACA AGGGAAGTTG GGAACTGAGA AATGTTATTT CTCAATAAGC      1920

ACTATTCTTT CACACCACCG ATAGTCAAAC CTTTTACAAA GTAGCGTTGG AAAAATGGAT      1980

ACAAAATCGC GATTGGAAGG GTTGCAACCA CAACCATGGC CATACGACCT GTTTCTTTCG      2040

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GGGCGTTGAA CCAGTCATTC CAGAAACCAA GAGCTGTTAA GAGCGTGATG GTTGCGATAC      2220

CTGGTAGTGA CAATGGCAAA CAGATTTGGA AGAAAATCCG GGCCTCACTG GCACCATCGA      2280

TACGAGCCGA TTCTAGAATG GCTTCTGGAA TGGTCTTCTT GAAGAAGGAA CGCATCAAGA      2340

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GAAGTACACG GGTCACCATG ATATAACCTG GTACCAAACC AGCGTTGAAC AACATACTGA      2460

GAAGGACGAA GATGGTAAAG AATCTGCGAT ACTTAAAGGT TGTCCGTGAA ATAGCGTAGG      2520

CATAGGTTGT TGTGATAAAG ACATTTGTCA ATGTCCCAAC TACGGTTACA AAGACAGAGA      2580

TGAAGAGGGC TTGTAGGATT TTATCCTTAA ACTGTGCCAA AAACTCAAAA CCGTCTAAGC      2640

CAAATTGGGA TGGGAAGAAG CTATAGCCGT ATTGGAGGAG GCTTTTCTCG TCTGTCACTG      2700

AAATAATGAT AACGAATACA AAAGGTAGGA TACAAGAGAG GGCAATCAAA CCCGAAATGA      2760

TACTGAAGAA GATATCTGCT TTCTTACTGA AGGAGTGAAT GCCGACATTA TCAATTTTTT      2820

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AGCGGAGTCA ACTGAGGAAT GGTTACGTTG CGAATACGTT GCCACTTGCT AGCTCCGTCC      3180

ACTGTCGCTG CTTCGTAGTA GGTTGGATCA ATTCCCATGA TCGTCGCATA GTACATGACA      3240

CTGCTATATC CAAAGCCTTT CCAAATACCT AGGAAAAGTA GGAGATAGGG CCAGATGCCC      3300
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868

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CCTTTATCAA TATTTAGGAA GGCATCTGTA AAGAAACTGA TGATAACCCA AGACAAGAAG        3420

TAAGGGAACA ACATAGAAGT TTGAAAAATC TTCACCATTC TCTTAGAACG GAGCTCGCTG        3480

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AGTGCCCCTG GCAAAACCAT CAAGAGAAAG ATCCAGTTGT CTCTCAATGT TTTTGAAAAC        3780

TTTTTCATAA TTTCCTCCCT TTTTATTTTG ATATCCATCT AAAAATTCTT TTTTAGACTT        3840

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AGAGATTATA GAACTTTTAT AGTAGTTTGA AATAAGATGT GAACATCTCT ATCAGGAAAG        4800

TCAAATTAAT TTATAGAAAT ATTTTAGCAG CCAAGGTGTA CTGTTATAGA TTCAATACAC        4860

TATACTTGGT GGTTTAGCTC G                                                4881
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(2) INFORMATION FOR SEQ ID NO: 126:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 13121 base pairs
           (B) TYPE: nucleic acid

869

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      (C) STRANDEDNESS: double
      (D) TOPOLOGY: linear


         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:

AGGATCCCCG GAAAAGGAGA CTAAAAATGA AGAAAAAATT TCTAGCATTT TTGCTAATTT        60

TATTCCCAAT TTTCTCATTA GGTATTGCCA AAGCAGAAAC GATTAAGATT GTTTCTGATA       120

CCGCCTATGC ACCTTTTGAG TTTAAAGATT CAGATCAAAC TTATAAAGGA ATTGATGTTG       180

ACATTATTAA CAAAGTCGCT GAGATTAAAG GCTGGAACAT TCAGATGTCC TATCCTGGAT       240

TTGACGCAGC AGTCAATGCG GTTCAAGCTG GGCAAGCCGA CGCTATCATG GCAGGGATGA       300

CAAAGACTAA AGAACGTGAA AAAGTCTTCA CCATGTCTGA TACTTACTAT GATACAAAAG       360

TTGTCATTGC TACTACAAAG TCACACAAAA TTAGCAAGTA CGACCAATTA ACTGGCAAAA       420

CCGTTGGTGT TAAAAACGGA ACTGCCGCTC AACGTTTCCT TGAAACAATC AAAGATAAAT       480

ACGGCTTTAC TATTAAAACA TTTGACACTG GTGATTTAAT GAACAACAGC TTGAGTGCTG       540

GTGCCATCGA TGCCATGATG GATGACAAAC CTGTTATCGA ATATGCCATT AACCAAGGTC       600

AAGACCTCCA TATTGAAATG GATGGTGAAG CTGTAGGAAG TTTTGCTTTC GGTGTGAAAA       660

AAGGAAGTAA ATACGAGCAC CTGGTTACTG AATTTAACCA AGCCTTGTCT GAAATGAAAA       720

AAGATGGTAG TCTTGATAAA ATTATCAAGA AATGGACTGC TTCATCATCT TCAGCAGTGC       780

CAACTACAAC TACTCTCGCA GGATTAAAAG CTATTCCTGT TAAGGCTAAA TATATCATTG       840

CCAGCGATTC TTCTTTTGCC CCTTTTGTTT TCCAAAATTC AAGCAACCAA TACACTGGTA       900

TTGATATGGA ATTGATTAAG GCAATCGCTA AAGACCAAGG TTTTGAAATT GAAATCACCA       960

ACCCTGGTTT TGATGCTGCT ATCAGTGCTG TCCAAGCTGG TCAAGCCGAT GGTATCATCG      1020

CTGGTATGTC TGTCACAGAT GCTCGTAAGG CAACTTTTGA CTTCTCAGAA TCATACTACA      1080

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GCCAAGGTCA AAAATTGAAA ACTCCAATCT CTGGAACTCC AATCGGTGAA ACAGCCTTTG      1380

CCGTTAAAAA AGGAGCAAAT CCAGAACTGA TTGAAATGTT CAACAACGGA CTTGCAAACC      1440

TTAAAGCAAA CGGTGAATTC CAAAAGATTC TTGACAAATA CCTAGCTAGC GAATCTTCAA      1500

CTGCTTCAAC AAGTACTGTT GACGAAACAA CGCTCTGGGG CTTGCTTCAA AACAACTACA      1560
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870
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TCATCTCTGA GATTTTCGTT GACGTTATTC GTGGTATTCC ATTGATGATT CTTGCAGCCT    1740

TCATCTTCTG GGGAATTCCA AACTTCATCG AGTCTATCAC AGGCCAACAA AGCCCAATTA    1800

ACGACTTTGT AGCTGGAACC ATTGCCCTCT CACTCAATGC GGCTGCTTAT ATCGCTGAAA    1860

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AGGAGATGTT GTTTGTATCA TCGGTCCTTC AGGTTCTGGT AAGTCAACTT TCCTCCGTAG    2340

CCTCAATCTT TTAGAAGAAG TCACTAGCGG TCACATCACT GTGAACGGCT ATGATTTAAC    2400

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TTGCTAGCCA CTTCTACTAT CAAAGCCATG ATGTCAATGA TTCGGAACAT TATATTGCTT    3360
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871

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TGCGTCAATT ACAAGCTGAG CTTAATGAAA AATACCAAGC TGAACACAAT AAGCTCTTCT      3420

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TTGTCGATGG CAAAGGTTTT GAGCGCTTGA TCGTTGAAAA ACCATTTGGT ACAGATTACG      3540

CAACTGCAAG CAAGTTGAAT GACGAACTCC TAGCAACATT TGACGAAGAA CAAATTTTCC      3600

GTATCGACCA TTATCTTGGT AAGGAAATGA TCCAAAGCAT CTTTGCAGTT CGCTTTGCAA      3660

ACTTGATTTT TGAAAACGTT TGGAACAAGG ATTTTATCGA CAATGTTCAA ATTACCTTTG      3720

CGGAGCGCTT GGGTGTAGAA GAACGTGGTG GCTACTATGA CCAATCCGGT GCCCTCCGTG      3780

ACATGGTCCA AAACCACACT CTACAACTTC TTTCGCTCCT CGCCATGGAC AAAACCAGCAA     3840

GCTTCACAAA AGACGAGATT CGTGCTGAAA AGATTAAGGT CTTTAAAAAC CTCTATCATC      3900

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TAGAATAAAA AAATTTCCTG CAAGTTTATG CcTTGCAGGA TTTTTGCTTC TGATTAGATT      4620

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TCAGGTCCAG TTACTACTGG AACATCTACT CGTCGGCCCC ATTCAGCTAG CTGAGCTACT      5100
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872

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GCACCCGCAC GGAAGGTATC TGCTGCAACC AGCATGACCT TCTTACCAGC TTGTTTGTAG    5160

CGGTGGGCTA GTTTTCCGAT AGAAGTTGTT TTCCCAACAC CATTCACACC AACAAAGAGC    5220

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AGCTCAACCA ATTTCTCAAT GATGACACGA CGAAGTACAT CAGGTTTCTT GGCATTTTCA    5340

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GCCATTATAA GCCCTCCATA TAAGCTATAA CCGACCGTTC CTTATGGTGA CCAATCACAG    6780

TCTTTGCTAA TTCTAAAATT TCAGGTCGTG CATTTTCAGG AGCTACAGGA TGTCCCACAA    6840

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873

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TGAGACGATC CATATCAAAG CGTCCATTCC CATCTAGGAA GGTTCCGTCC ATATCCGTTG      7500

CTACTAGTTT AATTGTCATC CTTCAATACT TTCTAAATCT TTTAACTTAA CTGAAACAAT      7560

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TTTCTTGGCT TCAGCACGAG TTTGCTTGCG AATCCACTCT TCATTCTGCT GGCGAGCCTG      8340

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TTCATAACGT TTTTGCCCTT GCAGTTCTGT CTTAAGCAAA CGAGCTTGCG CTAGCTCTTC      8640
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874

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AGTTTCCAGT TCTTCAACTT GCTGACTAGT TTGCTGATAA GCGAGGAACA AGCCTTGCTC    8880

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AGCTTCTAAA CGATTGAGTT TTTGATTATT TTGGACTAGA TTTCCCTCTA ACAGAGCTAA   10020

AGAGCTTTCT TTATCAGACT TTTCTTTGCT GAGTGAATTT CTCTTATCCT CCAAAGCAGC   10080

CAAACGGGCT TGTGCCTCCT GTTGATTCAA GGCCACTTGC TCGGACTCCA GTTTCGATAG   10140

GGCTAATTTT CTTTCTAAAT CACTAATCAG ACTAGTCAAG TCCATCAAAC TGCCTTGGTC   10200

TTTGGCCATT TCAGCCTGTA AATCTTGGCG TTGCTTTTTA AGAGTTTGAT TTTCTTCTTC   10260

TAATTTTTCA CGCTTTTGGT AATAACTCAT CAAGAGTTCT TGAACCTGAG TCAACTCTTC   10320

TTCTGTCGAC TCTAGTTCAG CCTTATTTTC CTTGATTTGA GCAACCAGAA CATCTAAATA   10380

AATAGCCTTA CGTTGTCCTT CCAAGTCTAA AAACTTACGG GCATTCTCAG CTTGCTTCTC   10440
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875

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AAGAGGCTTG ATTTGATTAT CCAACTCGTA GATAATGTCC TCTAAGCGGT CCAGATTATC    10500

CTGAGTTTGC TGCAGTTTAC TCTCGGTTTC TTTTCTGCGA GTCTTGTATT TTAAAACTCC    10560

AGCAGCTTCT TCAAAAATAG CTCGTCGTTC CTCAGGCTTG GAATTAAAAA TCTCCTCAAC    10620

CTTCCCTTGG GAAATAATAG AGAAGGAATC TCGTCCCAAT CCAGTATCCA AGAAGAGGTC    10680

ATGAATATCA CGCAGACGGA CTTTCTTGCC GTCAATCTTG TATTCGCTAT CTCCACTACG    10740

ATAGACATGG CGTTCCACCC TGATTTCTTG ACCTGCATCC TTGATAAATC CGTCATGATT    10800

ATCCAGAGTC ACAACTACAG AAGCATAATT GAGCGGTTTG CGACTTTCGG TTCCAGCAAA    10860

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TTCCTTTAAA TACATGAATC CAGCCCCTTC TCAACGGCAT TTTTGGCAGC TTCCTGCTCT    11100

GCTAATTTCT TAGAACGACC TTGGCCTTGA CCGATGCTCT TACCTTCAAC AAGAACTTCT    11160

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ACATCCTTAT CCAAAAGAAG GGCACCAAGA AAGGCTTCAA AGGCATCACC AAGAATGGTG    11400

TCACGATTGC GACCACCTGA TTTTTCTTCC CCTTTACCCA ACTTGATAAA CTGGTCAAAC    11460

TGGCAATCAC GCGCAAAACC AGCTAAACTC TCCTCACGGA CAATCATAGC ACGGAGTTTT    11520

GATAGGTCAC CTTCAGGCTT TTTAGGATAT TTTTTATATA GATATTCTGA AATCAATAAC    11580

TGTAGAACAG CGTCTCCTAA AAATTCCAAG CGTTCATTGT GTGAAATTTT TAAGAGGCGG    11640

TGCTCATTGG CATAACTCGT ATGAGTAAAG GCAGTTTCCA GTAACTTTTT GTCTGCAAAT    11700

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TAAGGTCAGC AACCTGACGT CCACCTGCAT AAGAAATAGC ACTTTGAAGG TCTTGTTCCA    12180
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876

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TCTCAGTTAA AGTGTCTTGC AGATGACCTT TAGCAGGAAG CAAGATACGT TTGCCTTCCA      12240

CATTTTTGTA AGCACCTTTT TGATATTGTG AGGCTGAACC ATAATATTCT TTGAACTGTT      12300

CACCATCGAC TTCAATCGTT TTCCCTGGAC TTTCAATGTG TCCTGCAAAG AGGGAACCAA      12360

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CTCCATCAGC GATAATCGGT TTACGCGCAG CCTTGGCACA CCAGCGTAGA GCAGCCAACT      12480

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AATCAAAAAT TGGAAATTCA TTTAACATAT CGATGTCTCG TTTCTTTTGT AATGACCTAC      13080

CTATGCTCTT GCATCACTAC GCCTTTTCCG ACGTTTCCTG G                         13121
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(2) INFORMATION FOR SEQ ID NO: 127:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 9578 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:

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GGTAAAATTC GTAAAAACTA TATTCGTATT TTAGCGGGAG ATCGTGTTAC TGTCGAAATG       120

AGTCCATATG ACTTGACACG TGGACGTATC ACTTACCGCT TTAAATAATC GAAAAACTTG       180

GAGGGATAAG AAATGAAAGT AAGACCATCG GTCAAACCAA TTTGCGAATA CTGTAAAGTT       240

ATTCGTCGTA ATGGTCGTGT TATGGTAATT TGCCCAGCAA ATCCAAAACA CAAACAACGT       300

CAAGGATAAG ATAGAAAGGA GAAAACATGG CTCGTATTGC TGGAGTTGAT ATTCCAAATG       360

ACAAACGCGT AGTAATCTCA TTGACTTATG TTTATGGTAT CGGACTTGCA ACATCTAAGA       420

AAATTTTGGC TGCTGCTGGA ATCTCAGAAG ATGTTCGTGT ACGTGATCTT ACATCAGATC       480
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877

AAGAAGATGC TATCCGTCGT GAAGTGGATG CAATCAAAGT TGAAGGTGAC CTTCGTCGTG   540

AAGTAAACTT GAACATCAAA CGTTTGATGG AAATCGGTTC ATACCGTGGT ATCCGTCACC   600

GTCGTGGACT TCCTGTCCGT GGACAAAACA CTAAAAACAA CGCCCGCACT CGTAAAGGTA   660

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AAAAGGTCCA GGTTCTGGTC GTGAGTCAGC TATTCGTGCG CTTGCTGCCG CTGGTCTTGA   1020

AGTAACAGCA ATTCGTGATG TGACTCCAGT GCCACACAAT GGTGCTCGTC CTCCAAAACG   1080

TCGCCGTGTA TAATCATCGC ATTACACTGC TTTTCGTTTA AGAGGGAGTA ACTAAATGAT   1140

CGAGTTTGAA AAACCAAATA TAACAAAAAT TGATGAAAAT AAAGATTATG GCAAGTTTGT   1200

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GATGATGAAA GTACGAAATC TTGGACGCAA GAGTTTGGAA GAAGTGAAAC TCAAACTCAT   2040

TGATTTGGGT CTTGGATTAA AAGATAAATA AAGGAGGAAT ACATGGCTTA CCGTAAACTA   2100

GGACGCACTA GCTCACAACG TAAAGCAATG CTTCGCGATT TGACAACTGA CCTTTTGATC   2160

AACGAATCAA TCGTGACAAC TGAAGCTCGT GCTAAAGAAA TCCGTAAAAC TGTTGAAAAA   2220

878

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ATGATTACTC TAGGTAAACG TGGTGATTTG CATGCACGTC GTCAAGCAGC TGCTTTCGTA    2280

CGTAATGAAA TCGCATCTGA AAACTATGAT GAAGCAACTG ATAAGTACAC TTCTACTACA    2340

GCACTTCAAA AATTGTTCTC AGAAATCGCA CCTCGTTATG CTGAACGTAA CGGTGGATAC    2400

ACTCGTATCC TTAAAACTGA ATCACGTCGT GGTGATGCAG CGCCAATGGC GATCATCGAA    2460

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GTTTCTTATT TTAAGAAGAA TTGGAGTTTA CTTATGAAAG CCATTATAAC TGTTGTTGGT    2760

AAAGATAAAT CTGGAATTGT TGCAGGTGTT TCTGGTAAAA TTGCAGAATT AGGATTGAAT    2820

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AGTGATGAAA AGCAAGATTT TACCTATCTT CGTAATGAAT TTGAAGCTTT TGGGCAAACT    2940

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AACCAAGTCG GTGGTTTATC TGGTGCCTTT ATCCCTGTTT CTGAGGATGA AGGAATGATT    4020
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879

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GCTGCAGTGC AAAATGGCTC TCTTAATTTA GAAAAACTAG AAGCTATGAC GGCTATCTGT      4080

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ATGATTGCGG ATGAAGCAGC AATCGGTGTT ATCAACATGA AAACAACAGC TGTTCGTATC      4200

ATTCCCAAAG GAAAAGAAGG CGATATGATT GAGTTTGGTG GTCTATTAGG AACTGCACCC      4260

GTTATGAAGG TTAATGGGGC TTCGTCTGTC GACTTCATCT CTCGCGGTGG ACAAATCCCA      4320

GCACCAATTC ATAGTTTTAA AAATTAAGAA AATAGGAGAA ATTTTAAGTT CTATTTAAGA      4380

TTAGACGTGT ATACTATAAT CATTAAATAA AGACCTCCTA ATATTATTTG AAACAGATAA      4440

CACTGAATTA GTTTGAATTT GATTTTCATC TAAATATCTT ATTTAATGAA CTCCTAAACT      4500

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TGTGACTCAA GATAAGATGG CTCCAGAAAT GATACCAGAT AGCATCATTG GAGTTGTAAT      5640

CTTAGCAAAG GTATTGAGAC GACTACTTCC TAAGCTTTCA GCAGCTTCTT CAATACTTGG      5700

TGCTATTTGT TGTAAGCTAG CAACAGATGA GCGAATAGTA TAAGGTAATC TTCTGGCAGA      5760
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GGAGATAAAT GTCGCAAATA GAACAACTAG AACTAAGGCA ATCAAAGGGA TACGAATGGT      6000

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AATTTGGTCT GAAATAGCCA TGGCTTCTTC TTGGTCGTGG GTTACATAAA CAGTTGTAAT      7560
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881

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TACACTTTGA CTGCTAAAAT ATTTCTATAA ATTAATTTGA CTTTCCTGAT AGAGATGTTC   9300
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882

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AGGTCACAAA GGCTGCGATA GAGCTTCTAT GGAGAATTTC TTTTTGGAGA GATTTTTTAA   9540

AGGAATGAGA CATCCGCTAC CTCCTTGGAA GGTTTTTG   9578

(2) INFORMATION FOR SEQ ID NO: 128:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 13440 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:

CGGGCTGTTG TGACGATTCT TATTTCTATC TGTGTTATCT TTTTGGGAAC TATTTTGGGT   60

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TACGTTTGGA TTTTCCGTGG GACACCGATG ATGGTTCAAA TTATGATTGC CTTTGCTCTT   180

ATGCATATCA ATGCTCCGAC TATTCAGATT GGAATTTTAG GTGTTGATTT TTCGCGTCTG   240

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GCTTTTGAAA AACATATGGG ACAAGGAGAT AAGAAATAAT GACAGAAACC TTGATAAAAA   660

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AACAATTCAA TCTCTTTCCT AATATGACTG TGATGGAAAA TATCACCTTG TCCCCTATCA   960

AGACCAAAGG TGACAGTAAG GCCGTTGCAG AGAAAGAGC TCAGGAACTT TTGGAAAAAG   1020

TTGGTTTGCC AGATAAGGCA GACGCTTATC CACAGAGTTT GTCAGGTGGC CAGCAACAGC   1080

GGATTGCCAT CGCGCGTGGG TTGGCTATGG AACCAGATGT TTTGCTCTTT GACGAGCCAA   1140

883

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CTTCAGCCCT AGATCCTGAG ATGGTTGGAG AAGTTCTGGC TGTTATGCAA GATCTAGCCA    1200

AGTCAGGAAT GACCATGGTT ATCGTAACAC ATGAGATGGG ATTTGCCCGT GAGGTGGCAG    1260

ATCGTGTCAT CTTTATGGCA GACGGTGTGG TTGTTGAAGA CGGAACACCT GAGCAGATTT    1320

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TTGTTTAGCT ATTTGTAGCC AGCTTTAAAC GTTAAAGAGA AGATTAGTGA AAAGCTCAAC    1440

CAGAGCTTTT TCTTATAGTT TAAAGCTATA GGATTGCCTA GGAAAGAAGT GTTAGAGCTA    1500

CATTGTATTT TTTGGTATAA TTAAAGATAT TTGTAAGAAA AGAGAAGTGA TATGACACAG    1560

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ATTGATGAAG AGGCGGTTCT ATTGGCTATT GACCCAGAAA AGGATGTGGA TGGTTTCCAT    1920

CCTCTAAACA TGGGGCGTCT TTGGTCTGGT CATCCAGTCA TGATTCCTTC GACACCGGCA    1980

GGAATTATGG AAATGTTCCA TGAATATGGG ATTGACTTGG AAGGTAAAAA TGCAGTCGTC    2040

ATCGGTCGAT CCAATATTGT CGGAAAACCT ATGGCCCAGC TTCTTTTGGC AAAGAATGCA    2100

ACAGTAACCT TGACTCACTC ACGTACTCAT AATCTTTCCA AGGTGGCTGC AAAAGCAGAT    2160

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TTCTGCCACC ATTTACTCCT ACAGATAAAA GAGTAGCCTC GACTTATGAC CTACATAAGA    2820

GGTTAGTGAC TTCAGACTAC TGTAGTCATA CTACGACTAT AGATGCAGCG ATTTCTATTT    2880
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884

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AATTTGAAAA TATTATTCCA ACCAAAATAC AAGATAGGGT GTATTATCTT GACTATGCTG          3300

GAGAAGACTT AGAAGAGTGG ACTAAGAAAG TCTATCAAGT TGTTTTAAAA CAATCAGATA          3360

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885

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CATTTGGGTG GTGGATGAAA GCAAGCTGGT CGAAAAACTA GGTGCTTTTA AATTGCCAGT    4920

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ACCAAGTTTC CGTGAAAAAG ACGGCCAACG TTTTGTGACC GATATGCAGA ATTTTATCAT    5040

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GCCCTGCCTT TAAAGGAAAT GGTCTCATTC CAGTAGGACA TTTTGCAGAT ATTTCAGCGA    6360

CTGTTGCCGA TAACTTTGGT GTGGAAACTG CTATGATTGG GGAAAGTTTC TTAGATAAAT    6420
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886

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AAGGTCGTCA TGGCGGAGCT TCGTCAAGAA TTGACAAACT TGGGACTGGA AAAGGTTGAG        6540

AGCTACATCA ATAGTGGCAA TATTTTCTTT ACTTCGATAG ATTCCAAAGC CCAATTGGTT        6600

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AGTCTAGAGG ACTTTGAGGC GGAACTTGAA AATCTACCAG CTTGGTGGAG CAGAGACTTG        6720

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AACATGACGG GGCAAAATCC ATTGATGGGT GAAAACTTGG ATGACTTTGG CCCACGTTTC        7440

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AAAAATTAAG TATCGGAGTT GTATCTGTTG TAGTCGGCTT TGATTTCTAG CTCCAGCTGG        8220
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887

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TTCTAAGGAG GAATTGAAAG AGTCAGAAAA TGATGCTCCA AAACTAGAAA CTCCTCTTAG    8340

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AATCAAAGAG CAAACTAAGA AACTAGCCGC AGGTTGCTCA AAGCACTGCT TTGAGGTTGT    9960
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888

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GTTGGATGAG TTTCCAGTAA CGCTTGATAG CCTTGTATTC ATGAGATTTT CGTTCAAACT    11700

GATTCATAAT TTGAACACGA AAACGACTCA TGGCACGGCT GAGATGTTGG ATAATATGGA    11760
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889

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TAAACATATC CATCGTAATG ATTTTCACTT GACAACGAAC GGCTCTATCG TAGCGAAGAA      11880

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TAGCAGTACG CATAGCTGAT TTTTGAGCTG AGTTCTTTTC GATTCGTCTA ACGTTCAATT      13380

CAGCGCGTTT GATAGCTGAT TTAATGTTTG CCAATGGTCT TACCTCCATA TTTACTAACT      13440
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(2) INFORMATION FOR SEQ ID NO: 129:

890
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(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 8512 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:

CCTTTTTTCA AAAACTAGAT ACTAGTCTAT CAAAAGTAGG AAAGGGTTTC AAGAAAATTG      60

ATTGGAAATT TTTTGAAAAT CATAGAACTA TTAGCTAATC CCTAGTATTG AAAAGACTGG     120

ATAGCTTCTT TCAGGTCATC TTGTAAACTA TTTCTCTGGT CAAGTTGGAC ATAGACTTCC     180

ACCAGACAGG ATCTAAAGTT GGAAAATTTG TAAAAATCCT CCCTTTCTTC TATCGGAAAA     240

TCAACAGTTT TTATCCAAGA AGCTACTTGT TCTTGCTCCA ACTTCCCTTG TAAAATAGGT     300

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TTCTCAATTA AATACAATCT GATATAAAAT GACGTAAATA ACTATCAATA CCAGTTCTAC     780

AGTAAGTTCA AATTTAACAT CACGACCTTC AACGACATTT TTGAAAATAG CTACAACTAA     840

GACAAATAGA ATGACGCTTA ACAAGCCCAT AAACATCATT CTAAAAAATT TTTCTATTCC     900

CCTACTCTCC CAACTCAGCA CTATAGGAGA TAATCTGGTC AACTGTGTCA GACAAGAATT     960

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CAAGTGGTGT CTTGCTACCA CCTGATTTGA GGAGATTGAG CCAGTCTTCA GCTCCAGTTT    1080

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CTTCCAAGAG GTGGGTGATA AAGTTATGGA AGTAGGTGTC TGTCAAGCGA TGAGCCAGAG    1380

CGAAGCGTTT TTGACGTGGG TCATTAGACT GGTTCTCCAA GTAATCACTG AGTAGCAATT    1440

CATTGAAGGT TGACGGTGCT TCAACATAGT AGGTCGACAT ATGGGCATTG AAGTAACTTT    1500
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891

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GATGATTGTC TGAAAAGATG AATTGACCAG AATGCCCGAT TTCATGAATC AAGGTATAGA     1560

CATCGCTCAA ACGGCCTGTC CAGCTCATGA GTACATAAGG GTGTACGCGA TATGGGTCCG     1620

CCGCATAACC ACCGGAATCC TTGCCACTGT TAGCAGCAAA GTCCACCCAG CGCTCTTCTT     1680

GGTAACGAGC AACTTCCTGA CAATATTCTT GCCCCAAAGG TTCTACCGAC TTCATGACCA     1740

AATCATAGGC ATCGTCAATA GTCACTTCAG GATTCAGGGC GCTGTCCAAG TCCAATTTCC     1800

AGTCTGCAAA GGTCATCTTT TCAAGACCAT TTACCTTGGC AACATGCTTG AGGTATCTCT     1860

GAGCGACTGG TGCAAAGTCC TTCATGATGA GGTCAATCTG GCGGTCAAAC ATGACACGGT     1920

CCACTTCTTG TTCAGCTAGA AGATAGTCAA AGACAGAGTC GTATCCCTTC ATATCAGCCA     1980

AGAGTTTTTC AGACTTGACC TGAGCCAGAT AGGCTGCTGC AGCCGTATTT TGGTGCTTAC     2040

GAAGTCCCTC TGAGAAGGAA CGGAAGGATT TCTCACGAAC CTCAGCATCC TCATGGTTTT     2100

GGTAGAAATT CTCATAGGTC ACAAAGCTGT TTTTGTAGGT CTTGCCATGG GCTTCAAAGT     2160

CAGCCATTTC AAAATCCCCA GCTCGCATCT TAGTATAAAT GTCCTGCGGA CTGTAGAAAA     2220

CTTCACCGAG ATTTGTCAAG GCCTTCTCCA CATCTGCCCC TAAGTAGTGG GCTTTTTTGA     2280

TTTTAGCCTG ACGAATGGCA GCTGTTAAAT GTGGCAATTT ACCCAAACGG TCCAAGACTT     2340

CCTCATCTGC TGCCACCAAG GCATCGTCAA AGAAGGTCAA GGCTACGCTG GCATCTGTTT     2400

CAAATTCCAT CCCAGCTTGG GCAATATTGG CAAATTCGTC ATTGCTATAG TCCGTCGTCT     2460

GAGGCATAAA ACCATAGTTG CCAATATGGC TCATCTGAAT GTAGATCTGT TCCAATTCCG     2520

CAAAGGCCTT CTCGAAATCC TCAAAAGTGT GAAGATTGCC CTTGTAATCA CGGCTAAACT     2580

GGTTGATGTC TTCGCGAGCT TTCTCGATTG CACGCAAGAA ATCCTCACGG TCTTGGTATA     2640

GGGCTGTTAA GTCCCAGAGT TCCTTCTCTG GAAATTCTGA ACGGTGTTTT TGTTCCATTT     2700

TCTTCCTCTT ATTTCTCTAA TTCTACTAAA ACACTAAGGG CTGATAAAGC GTAAAGCGGT     2760

GCTGTTTCTG CTCGCAAAAT ACGAGGACCT AGGCCTGCCA AAACGGCTCC TTTAGCTTCA     2820

AAACTTTCGA TTTCTGCAGG TGAGAGACCG CCTTCTGGAC CAAAGATAAA GAGCAGTTTG     2880

GCTCCTGTTT CAAGACCAGT GACTGCTTGC AGAAGCGCAG CGGCTTCTCC TTCTTTAGCT     2940

GATTCTTCAT AGGCTACTAT GATAGAGTCA AACTGGTCCA GCTGAGCTAG AAAATCTGCT     3000

TTTTTCTCGA AAAGTTTAAT ACTTGGTACA ATATTACGCT TGCTTTGCTC GGCTGCTCCA     3060

AGGGCAATTT TTTCTAGTTT TTCAACTTTT TTACCCAATT TCTTGCCATC CCACTTGGCA     3120

ACTGACCAGT CTGCAGGAAA GGCCCAGATT TGGCTAGCCC CCAGTTCGGT TACTTTTTGA     3180

GCGATGAACT CCAGCTTGTC TCCCTTGGGA AATCCAGATG CGATGGTCAC TTGGACTGGT     3240
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892

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AGTTCCACAT TGTCATTTAA TTCTTGGACC AACTCAAACT GACGATTTTC CATATCCAGC    3300

ACGCGCGCCA AGCGCTTGAT GCCATCATCA AAGACTAAGG TAACCTCATC CTCTTCTTTC    3360

AAGCGCATAA CCTGAAACAT ATGCTTACTG GTTTCCTTGT CCTCGATAGT GACAGGAGAG    3420

ATAGCACTGC CTTTTACAAA ATACTGCTGC ATGCTAGCCT CCAATCACAC CAGAGATATC    3480

CTTGGTTTTC TTAAAGACAC AGGTATTCCA TTCCCCTTGA CCATGTGAG TTTCGAGGAA     3540

AAATCCAGCT GACTCAGCCG ACTGGCGCAC CATGTCCAAC TTGTCCTTGA TAATGCCACT    3600

CATGATCAGG TAGCCTTCAT CCTTTACCAA GCGATAAGCA TCGTCTATTA GATGAATGAG    3660

GATATCCGCC AAGATATTAG CCACAATCAC ATCTGCCTCA ATTTCCACAC CCTTAAGCAA    3720

ATCTCCAGCC GCTACATGGA TATTTTCCAT GCCAGGGTTG AGCTCAATAT TTTCCTGAGC    3780

CACACGAACC GCCACATCAT CCAGGTCATA GGCGAAAATT TCTTTAGCCC CCAGAAGCGA    3840

GCTGGCAATA GAGAGAACCC CTGAACCAGT CCCCACATCT AGCACCGTTT CGCCACCACG    3900

AAGAACCTGT TCCAAGGCAA AAAGGCTCAT CTTGGTAGTT GGGTGGGTTC CAGTACCAAA    3960

AGCCATGCCA GGATCCAGCT TGATAATCAT TTCCCCCGCA GTCGCCTCAT AGTCTGTCCA    4020

AGAGGGAACG ATGGTCAAAT CATGAGTGAT ACGAGCAGGT TCATAGTATT TCTTCCAGTT    4080

GTCTGCCCAG TCTTCCTCAG CCAAGGCAGT CGTACCTATT TTTAACTCTC CCAAATCCAT    4140

AAAATCTGTC AATTCTGCTA GACGAGCCTG CAAATCCGCC TCAACCACTG TCACATCCAC    4200

CGTGTCAGGG TAGTAGGCTG TCACTACGAT TTCTTCTTGC TGCTCCACCT CTGGGAAAAT    4260

CTCTCCAAAG CGGTCCACAT TTCCCACATA GTCCATACTG TCTTCGATTG CGACTCCTTG    4320

CGCTCCCAGC TCAATCAAGA GATTGGAAAC CAACTCCTCT CCCTCACGCT TCACTGTAAC    4380

TTTTAACTCT TGCCATGTTT CCATTATTAA TACCAAGCCC GTAAACACA AAACCAAAAT     4440

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GGGCGGGTTC AGTTTAGAAA TGTAACTGAA CCATCCTTTC TAATCACTTA CTTTTAAATA    4560

ATCTTTTAAT CTCTCTTGCA ACTGAGGCAC AACTTGACTG GAACTAAGAA ATTCCTCAAC    4620

ATTCATCAGC TGATAGCCCT GTCCTTCATC TCCGAAGATG ATATTGTCAA ATTGTTCTTG    4680

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CTTGCTCCAA AGCAGACAGT CTTCATCTAA ATGAATTCCC AGTTCCTCAT AAACTTCACG    4800

CCGAGCGCAT TCAAAAGGGC TTTCGTCCCC TTCACGGCCA CCACCTGGCA GTTCCCACAT    4860

ATTGGCCCAG GGAATACTTG CCTTATCATC GCGTAAGATA GTCAAAAGCT TATCCCCACA    4920

AAACAAAGCA ATCTTGCAAC CTGTGAAATC AGAAATTTCT AGTTCCATCT TCAGTTCCTT    4980

CTAACATTTC CTTTTCCAGC TCGGCTAACC AGTTTTCATA ATATCTTTTC TCATCCCTCA    5040
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893

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ACATTCGACT ACTATCCATT TTCTGTCTAG CAATCTTGAG AGCCTTACGA GTTCGATCTA      5100

CATCTTTCTT CACCTTTAAT TGATACCAGG CTTGTATCAC TTGAAGATTG GACAGTTTGA      5160

GAGACAGAAA CGATTTGACC TGTCGAATAC TAGCATATTG CTCCGCTTGC TCAAAATCTC      5220

CTTCCAACAA GGCGATATGA AGCAGGGATA GTTGGGCAAC TGTCTGCATC ATCGGAGTAG      5280

TTGTCCTCTC AAGTAATGCT TGAAACTGCT GTTTAGCTAC TTCTTCCTTC CCTTCCAAAA      5340

TGGAAACTTC ACCTTGCATA CCTAATACAC CATCCGCAAA ACTCCCTCGT GCATCCTCAG      5400

GAACTGCTTG AACAAAGTCT TTCAAATCAT ATTCTTGAGG AGCTAGCAAG GTCTGGGCAG      5460

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TTTTTGCTCC ATCGGTGATG TCGACTGGCA AAATGTTATT TAGGAAGAAA GATAAATTAA      5580

GAAAAATCCA AGTCCCTGCA AAATACCAGC TTCTTGTCAA AAATCCAAAC AATATCGCCA      5640

ATAATATCAA GCCGAGATGA ACCATCAAGC CTCCTGAAAG CATCAGGATG ATTCTTTGAT      5700

CGCTTTCATC CTCTTTTAAA CCAATGTATT GAGCACCAAC ATTTTTCAGA ATGGCTGTTC      5760

TACTAAGATG AAACCTGCCT GACTTTTTGG TCAAAATAAA ATGTCCTAAT CCAAAAGCCA      5820

CCAGCCGATA GCCTGTCAAG TAGCCACAAA AAGCATGACC CAGCTCATGA AGAATAAAGA      5880

TTAAATACAT GCTTAGAAGA GCGAAGGCAT AACCAAAAGT AAAGGCTAAA ACTGCGGAAT      5940

ACCCCAACTC TGCAAATGCG ATTGTTCCAC AAGCAAAAGC TAGCATAATA AAGACAACAG      6000

CTAGCACATA AACCAAATAA GTCCCAATTT TCTTCATAAC ACCTCCAACC AACTCCTAGT      6060

ATCTTGGATA AGGATAAAAT TCTCCCTTTT CCAAGCCAAT TTTTCCTTCT TCAAAGACTT      6120

CTTGGTTCCA TTCCATGACA AATTCCTCTG CTTCTGGGTC TTCCAAAAAG TCCATGAGGA      6180

CATCTAGCCC AACCTCAGCA GTATCTTTAA GGAAAAGCGC AAAATAAGCT AAAAATTCAC      6240

GGGAAAATCC TTTTTTAGGC AGGTAAGGAA TAACAGTCAA ATAGTCTTCC TCATTGACTG      6300

TTGACTTGGC AGGATTGTAG AAAAGGACCG CTTCCTCAAA AAGAATGTCA TCTGATGAAA      6360

CCTCTCCGTC TTCATCCACC ATCTCCACAC CGCAGCATTT TGCGCTTCCA ATAGAAAACT      6420

CACTTCTACC GCATGGTTGC GTTTGTCCCA GCTAATCTCA AAGTCAAAGG GAAAGTTCTT      6480

GTCCAACTCT TCCTCTAAAA TATCTAAAAA TCCGTATGTT GCCATTTTGT CCTCTTTCTA      6540

TGCGACTCTT TAATCGCCCC GATTGCTCGG AAATATGCTA AAATAGATAC TACCATCTTA      6600

CCACAAAATT ATTTTATGTC CTAATTATAC CATATTACCT CATTTAAACC CTTGGTATCA      6660

GTGATTTTCT TAAAAGTCTG ATTTCTTCAT TTCTCATAAA AATCAATATA AAAAGCCCTC      6720

GAAAGGGCTA ATAAATCTAT AAAATCAATA GGCGAGTAAC TAGCACAAGT GGACGTGCTT      6780
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894

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TTTTATTGAC TATTACCACG ATACCACGCT TAATCTTAGG CTTGAACTTT CTTATCTGCA    6840

ATAGCGTCTG TCAAAGTCTG AGAAAAGTTA AGCCCCATTT CTCGTCCCAA CTTATCTGCC    6900

CATTTTGGTA TGGTCAAAGT CTTTTTAATG GGTTCCTGAC TTCCTAGGTA TTCTGATACA    6960

TCAACAGATA CCATAGAAAT AAAAGATTTA TCAAGGTCAT AGGTTGACAC GAAATCTTCA    7020

TCATCTTTAA AAGGATCATT ATCAATTAAA GACAAGCTAT TGATATCTGA TGGCTGAGGT    7080

AACTCTCCAT CACTCTCTAT CAAATCTGCA ACAGTTATCC CTAGCCACTC CGACCCCATA    7140

GCCAAAGCCT CAGAAATCCC CTCTCCTTGT GTAGCTGAGT ATTCAAAATC TGGGAAATGG    7200

ACAAAATAAG TCGCTTCTGT TCCGTCTGTG TCGTCATAAT AAAATAAAGC TGGATACGTA    7260

ACTAACATTT CACTACCTCC ATATCAAAAA GCAGGGACTG AATTTTACAA CCCAGCTTGC    7320

TTTCTTATCC CTCTTTCAGT GTACTTATTC AGCTCACCAT GAAGGATTGT GATAGGTCTT    7380

TCCCCTTGCT TTTCCATTTT AATATGGGAG CCTTTACCGC CTCTAGTCTT TATCCAACCA    7440

TGGGCCGTAA GGAGTTTAAC CATCTCTTTT TGTGTCATAG GCATAGCGCT TTTACCTCCT    7500

GACAACACCA TTATAACACG TGTTACACGT ATTGTAAAGG AGTGATACTT ATTATTCTAT    7560

TATACATAAA AGCCCCTAGA TGTGGTTCTA AGGGAAGCCA ATTTATTCAT ACCTATTTTT    7620

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TACTCTATAT TTTTTATCTC CAATTTTTAC AAACTGATAC TCTTCGAAAA TCAAATTCAA    7800

ACCACGTCAA CGTCGCCTTA CCGTACTCAA GTACAGcCTG CGGCTAGTTT CCTAGTTTGC    7860

TCTTTGATTT TCATTGAGTA TGATTAACTC TCAAGTCTTC GAAATCAGGA TTTTCAACAG    7920

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TTCAACCCAT TATTAGAATG AACTTCTTGG TAAGCAAAAT CAAGTTTAGA TTTAATGTTT    8040

TCGTACAAAT CTAAAATCTC TTTTGGAGTA TCTTCCCGGA AGAAAAGTTT TCTTTTCCCT    8100

GAAATAACTT GATCACTAAG AATCCAATGA CGAATTTGTT TTGTAAAAAT CAAAATTTCC    8160

TGACTTGGTA GTTCCATCAT TTCCATTGCT TATCACCTCT CTTTTCATTA TAGTTCATAC    8220

AATGACATTC AGCAATATTA TTTCTCAAGT CAGCACTTCC ACTTCTTTAG GCTCAACTAT    8280

CCTATTTTGA GCTTTAAGGA AAATCAAATC TCTCATGCTG ATACCTCTCC TCATTAAATT    8340

AAATAGTAAA AAAGATTCTA TCTCACTCCC TGATTATTAC AAAACCATTG AAATATCACA    8400

ACTAATAGGC TAGAATGGAC ATAGTAAGAT ATAGTAGATG AGTCATTCTA CTCAAATCCA    8460

CGTTAGAAAG GACTGCTATG CCAGACAATC TCGCCGTTCG CATGCGCCCn GG            8512
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(2) INFORMATION FOR SEQ ID NO: 130:

895

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 2869 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 130:

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CTCGTTTCAA GGTTGAGTCT CTTGCAAATC TTGTTCGCGT TCTTCCTTTT GCCAAGGCAT      60

CTCTCCCATG GTTGGTGCcA GCCATTGTTG GAATCTTGCT CTCATTGGTT CTACCAAACA     120

AGCAAGAAAG CGATGTTTTT GAAATGGAAT AATCACTTAA ATCACTTTTG TAGCCAAGTC     180

TACAGGAGTG ATTkTCTTTT TTTATCCGAT GATAAATGTG TTATAATAGG TAGCGAAAGA     240

GGTGAAGAAA TGAATCAAAC AGTAGAATAT ATCAAAGAAC TGACAGCCAT TGCGtCGCCA     300

ACAGGCTTTA CTCGTGAGAT TGCGGACTAT TTAGTCAAGA CTCTAGAAGG TTTTGGTTAC     360

CAGCCGGTTC GCACATCCAA GGGCGGTGTC AATGTAACTA TTAAAGGTCA AAATGATGAG     420

CAACATCGCT ATGTGACTGC CCATGTAGAT ACGCTTGGTG CTATTGTCCG TGCTGTCAAA     480

CCAGACGGCC GTCTCAAAAT GGACCGTATC GGTGGCTTTC CTTGGAACAT GATTGAAGGA     540

GAAAACTGTA CCATTCATGT GGCTAGCACA GGTGAAAAAG TATCAGGAAC CATCCTCATC     600

CACCAAACTT CTTGCCATGT CTATAAGGAT GCAGGAACTG CAGAACGCAC GCAAGACAAT     660

ATGGAAGTGC GTTTGGACGC CAAAGTAACT AGTGAAAAAG AAACTCGTGC TCTTGGCATT     720

GAGGTCGGTG ATTTTATCAG TTTTGACCCA CGAACTGTCG TGACAGAGAC AGGTTTTATC     780

AAGTCTCGCC ATTTGGATGA CAAGGTCAGT GCGGCGATTT TGCTCAATCT CCTTCGCATT     840

TATAAGGAAG AGAAGATTGA ATTGCCCGTA ACAACTCATT TTGCTTTTTC AGTCTTTGAA     900

GAAGTGGGAC ACGGTGCAAA CTCTAACATT CCTGCTCAGG TAGTAGAATA TCTGGCTGTG     960

GATATGGGAG CCATGGGAGA TGACCAGCAA ACAGACGAAT ATACAGTGTC TATCTGTGTC    1020

AAGGATGCTT CTGGACCTTA TCACTATGAC TTCCGTCAAC ATTTGGTGGC TTTGGCGAAA    1080

GAGCAAGATA TTCCATTTAA GCTGGATATC TATCCATTTT ATGGTTCGGA CGCTTCAGCG    1140

GCTATGTCTG CAGGGGCAGA AGTCAAACAC GCCCTTCTCG GTGCTGGTAT AGAGTCTAGC    1200

CATTCCTATG AGCGTACCCA TATTGACTCG GTGATCGCAA CAGAACGAAT GGTCGATGCT    1260

TATCTTAAGA GCACGTTGGT GGACTAATAT GTGCCTTATT TGTCAGAGAA TTGACCTCAT    1320

CAAGAAGGAA GAAAATCCTT ACTTTGTCAA AGAGTTGGAA ACAGGCTATC TTGTGGTTGG    1380

AGACCACCAG TATTTTGAAG GCTATAGTCT CTTTCTAGCC AAGGAGCATG TCAGCGAATT   1440
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896

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GCACCATTTG AAAAAGGAGA CAAGACTCCG TTTTCTAGAA GAAATGAGTT TAGTCCAAGA    1500

GGCAGTTGCC AAGGCCTTTG CTGCTGAGAA AATGAATATC GAACTGCTAG GAAATGGCGA    1560

TGCTCATCTT CATTGGCATC TGTTTCCACG ACGGACAGGT GATATGAATG GTCATGGTCT    1620

CAAGGGTCGT GGACCAGTCT GGTGGGTTCC CTTTGAAGAA ATGACAGCAG AAACCTGCCA    1680

AGCAAAACCG GATGAGATTA AAAGATTAGT CAAACGTTTA TCGTCAGAAG TAGATAAACT    1740

ATTAGAAATA AAGGAGTAGA AATGAAGAAA AGATACCTAG TCTTGACAGC TTTGCTAGCC    1800

TTGAGTCTAG CAGCTTGTTC ACAAGAAAAA ACAAAAAATG AAGATGGAGA AACTAAGACA    1860

GAACAGACAG CCAAAGCTGA TGGAACAGTC GGTAGTAAGT CTCAAGGAGC TGCCCAGAAG    1920

AAAGCAGAAG TGGTCAATAA AGGTGATTAC TACAGCATTC AAGGGAAATA CGATGAAATC    1980

ATCGTAGCCA ACAAACACTA TCCATTGTCT AAAGACTATA ATCCAGGGGA AAATCCAACA    2040

GCCAAGGCAG AGTTGGTCAA ACTCATCAAA GCGATGCAAG AGGCAGGTTT CCCTATTAGT    2100

GATCATTACA GTGGTTTTAG AAGTTATGAA ACTCAGACCA AGCTCTATCA AGATTATGTC    2160

AACCAAGATG GAAAGGCAGC AGCTGACCGT TACTCTGCCC GTCCTGGCTA TAGCGAACAC    2220

CAGACAGGCT TGGCCTTTGA TGTGATTGGG ACTGATGGTG ATTTGGTGAC AGAAGAAAAA    2280

GCAGCCCAAT GGCTCTTGGA TCATGCAGCT GATTATGGCT TTGTTGTCCG TTATCTCAAA    2340

GGCAAGGAAA AGGAAACAGG CTATATGGCT GAAGAATGGC ACCTGCGTTA TGTAGGAAAA    2400

GAAGCTAAAG AAATTGCTGC AAGTGGTCTC AGTTTGGAAG AATACTATGG CTTTGAAGGC    2460

GGAGACTACG TCGATTAATA CTCTTCGAAA ATCTCTTCAA ACCACGTCAG CGTCGCCTTA    2520

CCTACTGACT GCGTCGGTTC TATTCACAAC CTCAAAACAG TGTTTTGAGT cGATTCGTCA    2580

GTTTTATCTG CAACCTCAAA GCTGTACTTT GAGCAstGCG GCTAGCTTCC TAGTTTGCTC    2640

TTTGATTTTC ATTGAGTACA AAAAGTAAAC TTTTCTCTTG CAATTCCAGA TAAATAGTGT    2700

ATAATGGATG GGTATGTGAA AAACATACTT GTGGGAGGTA AAAATCTCTA ATTACCGCCA    2760

AAACCACAAA GGAGGATTTA AAAATGGCTA AAAAAGTCGA AAAACTTGTA AAATTGCAAA    2820

TCCCTGCTGG TAAAGCTACA CCAGCTCCAC CGGTTGGACC TGCTCTTGG              2869
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(2) INFORMATION FOR SEQ ID NO: 131:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 6186 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:

897

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CTGAATCCCT TATAGGAGTC CAGTAACTTT TTAGCCTCTA CTTTGCCTTC ATAGGCAGCT        60

TCAACATCAT TAAAAAAAGA ArGCACTGAA GCAAGTTCTT CAGTGCTCCA CGACAAATCT       120

AGTGGGTAAC TATACTGTTT GTTCATTAAC TAATACCAGC TCTCATTCTT GCTTCTTTTA       180

GTTCTTGCTT ACGATAACTA CGAGGGAGAA AAGCACGAAT CTCATCTTCA TTAAAACCGA       240

TTTGCATACG CTTGGCATCA ATAATAATTG GACGACGCAA AAGACTAGGA TACTGCTCAA       300

TCAAATGAAG CAATTCCGAT ACCGAAATAC TCTCTACATC AATATTCAAT TTTTGAAAAA       360

TTTTTGAACG AGTTGAAATG ATGTCATCAG TACCATTTTC GGTCAAGGAA AGGATGTGTT       420

GCAATTCTTT TCTTGTTAAA GGACTGGTCA TAATATTGTG TTCCACAAAG GGAACTTATG       480

TTTTTCTAAC CAGGCCTTAG CCTTACGACA TGATGTACAG CTCGGTGATA GAAATAGTGT       540

AATCATGCTT TTCTCTTCTT ATCTATACTT TGCTACTTCT ATTATACAAA AAAATAAAGC       600

GCTTGACTAG GGATTTTTAG AAAAAAAGCC TATTTTTTCA AGAAAAATAG GCTTTTTGCG       660

AACGATTGAC ACAATTGGAT TTGGTTAATT CACTCTTAAC GATGGTTTTA AACGATATAT       720

ATTTTTATAT ATGTAAATTA AAAACATCTT TCCTTTCACT TCCTACGACT TTTCAGATAC       780

AGATAGCCAA AGAAGTTTTC ATAGAGGGCA AAAAAGAGGA GGAAGGCATG AAGAAAGAAG       840

GTCTCTGGCA AAATCATAAT AACAGGATCC TTGGCTGGAT CAAAAAGCCA GGTATCATCT       900

CCCACAAAGA GAATTTGATG GAAAAGAGTA AAGAATTGGT CAAAACCAAT CAAAACTCCC       960

CCAAGTCCAA TCATCACAGG TAAGACTACT AGAGCCAGGA GACTTTTTCG ATAAAGAGAC      1020

AAAAAGTCCT TTTTCACAAT CCTATTGACA AAGACATAGA AACTTGGCAG TGTCACTAGA      1080

GCTACTAGCT GAACCAAATG AAAGAGATTC TTGACCACTG CGAAATGGTG CAGACCAGCT      1140

GCTGACGAAC GAAAATCAGG CATCTGTAAG ACCTGACTAA AAGGATTGGT CAGATAATTC      1200

ATCAAGATAT GAAAATTGTA TTGAATGGTT TCTGGTTTTA GATAGACTCG ATTCGTTAAG      1260

TTTAGCCACT GAATCTCCAT AGGATAGAAA ATCCAAGCCA GATAAATGGT CAGAAGGATG      1320

GAGAGGGAGA GGAGAAAGAG CATAGAGCCC CAAAAGATCA ATTTAGTTTT CATCAAAATC      1380

CCACTCCGCA AGGCTAGAAA CCACATGTGT CGGTGCGATT GGCAGGCCAG CTACTTCTTC      1440

TGCCTTAGTA AAACCTGTCG TCACCAAGAG CGTTGGAATG CCATTGTCAA TCCCAGCCCG      1500

AATATCAGTC AAATAATTGT CCCCAACCAT GATTAACTCT TCACGTTCCA AACCTAAGTG      1560

CTCAACCGCC TTGTCCATAA TGATGGCATT TGGTTTTCCG ATATAAACCG GCTTCACTCG      1620

TGTCGCTACT TCAAGCAGCG TAATCAGTGA GCCAGCACCT GGCAAAAGAC CGCGTTCCGT      1680

CGGGATGTTG AGGTCAGGAT TGGTTCCGAT AAAATGGGCA CCCTTTTGAA TAGCAAGAGT      1740
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898

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TGCTGTGGCA AATTTTTCAT AGTCGACTTG CCAATCCAGA CCAACTACCA CGTAGGCAGG      1800

TTTTTCCTTG TCTTCCACAT AACCAGCCGC CTTGATGGCT TCCTTGAGTC CTGCTTCTCC      1860

GACGACATAG ACGGTCTTTT CAAGCCCCAA ATCATTCATA TAGTCGATGG TTGCCAAAGT      1920

CGCTGTGTAG ACAGTCGATA GGGGCGTATC GATATTAAAA TTCTGAGCCA ACATCTCCTT      1980

AACACTCTCT GGAGTGCGGG TTGTATTGTT GGTTACAAAG AGATAGGGAA TGTCCCGCTT      2040

TTGCAATTCA TGAACAAAAG TCTCTCCAGC AGGGATTCGG TCTTTCCCCT TATAAATGGT      2100

TCCGTCTAAA TCAATTAAAT AGCCTTTATA TTTCATCTAT TTCTCCCTAA GCCTTTTTTA      2160

TTTCTTGCCA AGTAATGATT GCTTGGGCAT TGATAACCCC ATCACTTGTA ATTTCATGCT      2220

TGCTTTCCAG TCCAGTCCGT TCAACAGCCG ATGTAATCAC CCCACCTGGT CGAACTTCCT      2280

TGACATACTT GAGGTTGATT TTCTTGGGAA TATAGTGGGT CAAAAAATCC GCTCCCATGA      2340

CCTCAAAAAT CCAGTCCAAG TATTTACTGT TATTGACATG ACCATTCATA TCCAAGTCGT      2400

AAAAACGAAC ATGGTAATCC TTGCTGATCG GTTCTTCCAA GGACTCATAC TTCGGTCCAC      2460

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GGACTTTTCG ACTGTCGCGG TCCATGAGAA CAAAGGTCGC CATCATGTGG ATGAGCTCCT      2580

GCTCCGCTTC ATTATAAATA GTAAAGCGAC GGTAGCAAAA AAGTCGATTG TAGCTCAAGG      2640

CTTCCGTTTC GATGGTAATT TCTTCCGCAA AACGAGGCAA ACGAACCACC TCAATATCAT      2700

ATTCTACGAT AATCCAGACC AGATTATATT CTTCCAAAAT GGCCTTATCA CTAACTCCCA      2760

GTTCAATCGA CTGCATCCCT GAAACTTGCA GTGACAGCAA AATCACATCT GGAAGTTTGA      2820

TATGACCGTT CATATCAGCC ATATCAAAAG GAATTTTCAT TTTCATTTGA TAAGTTAAGC      2880

CCATGATCCT ACTCCAAAAT AAATCGTTCT GCTACAGTAT CTCCCAAAAA GAGACCTCTC      2940

TTTGTCATGC GAACGTGGTC ACCCTCAATC TGCATGAGGC CTTGTTGAAC CAAATCTCTG      3000

ACAATTTCTC CATAAAGTCC AGCAAAAGAC TGTCCAAATT TTTCCTCAAA TCGCGCCATG      3060

GAAACCCCGG ATTTCTTGCG GAGTCCCAAG AACATTTCTT CTTCCATTTG CTCCTTTTGA      3120

CTCAGGTGAT CTTCTGTAAT ACAAGCATTG CCTTCCTCAA CCGCACTGAG ATAATGACGA      3180

ATGGGACCAT GATTTTTATA GCGTACTCCA TTGACATAAC CAGATGCCCC TGCACCAATA      3240

CCATAGTATT CAGCATTGTC CCAGTACATG AGATTATGAC GACTTTCAAA ACCGGGTTTG      3300

GAGAAATTAG AAATCTCATA ATGCTCAAAA CCCGCTCGCT CCAGCTCTGC AATGATGTAC      3360

TCAAACATCT CCGCTTCTAG TTCCTCCTTA GGCAGAGGCA ATTTCCCACG TCGCATCCGG      3420

TTCATAAAGA CCGTATGGTT TTCTAAAATC AAACTATACA AACTCATGTG GGGAATATCC      3480

AATCCAATGG CTTTAGCCAC ATTTTCCTTT ACTTGCTCCA TGGTCTGACC AGGCAGAGCA      3540
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TAAATCAAAT CAATGGAGAT ATTGTCAAAA CCAGCCAGTT TCAGGCGATC GATATTTTCA    3600

TAAATATCCT TCTCCAAATG ACTGCGCCCA ATCTTTTTCA ACATCTTATC ATCAAAGGTC    3660

TGGACACCTA GCGAAACACG ATTGACAGCC GAATTTTTCA AAACAGCTAT CTTATCCGCA    3720

TCCAAATCGC CTGGATTGGC TTCAATGGTC AACTCTTCCA AGACAGACAA ATCCAAGTTT    3780

TTAGTCAAGC CATTCAGTAA CACCTCCAGT TGCGGAGCCG ACAGGGCTGT CGgTGTTCCA    3840

CCACCGATAT AAAGGGTTGA ·CAACTTTTCA ATATCATAAG AACGAAACTC TTCCAGCAGA    3900

TGCTCTAAAT AGCTGTCGAC TGGCTGATTT TTGATGAAGA CCTTTGAAAA ATCACAATAA    3960

TAACAAATCT GGGTACAAAA TGGGATGTGC ACATAGGCTG ACGTTGGTTT TTTCTGCATA    4020

GTAATTATTA TACCACAAAG ACTAGATTCC AGATAAAAAT CACCATCCCC AGATACATAG .   4080

TCCGTCCGGA GATGGTGATG GTTTATTCTT CTGTTATATC AATCACAATC TCTTCTGAGT    4140

CATCAAGAGC TTCGGCTTTT TCTTGCCATT GCTCCTTGAG ATTATTTAAT TGATTTTTTG ·   4200

ATGCTTCTGT CGCTTGAAAA GCATAGGATT TAGTTTGAGC AAGTATACTG TCCACAGTGA    4260

TTTCACCTGA CTCAACCTGT TCTTTTGTTT TCAGAACAAA ATCTGTAGCC TGCTCCTTAA    4320

CTTCTGTCAG TTTTTCACAG ACTTGCTCCT TGGCATACTC CGGATCTTCT CTCAAATCAT ·   4380

CTAGAAAATC TTGAGCCTGA CTGCAAACTT GTTTGCCCTT ATCACTTGTT AAAAACAAGG    4440

CAAGAGCTGC ACCTGAAACG GTTCCTAAAA GGATTGAGGA TAATTTACCC ATAAGGATTC    4500

TCCTTTTTTA TTTTTTGAAA AATTTACTTG CAAGACGAAG AGCTGACAGA CTTGCACCAG    4560

TCTTGAGTGT TTTTGAACCA GCTGATGAAG CTTTCTTGCT CAAGACACGC GCATGGTCAT    4620

TGAGGTCTGA AACAGATAGA GATAAATCTG CAACAGCACT GAAGAGTGGA TCAATCGTAG    4680

CCACCTTGAC ATTGTATATCA TCTGCCAAGA CATTGACCTT AGCCAACAAC TCATTGGTGT    4740

GATGCAAGGT CACATCCACA TCTGAAGTCA AGGTTTTAAT CGTCTTTTCT GTTTCATCGA    4800

TGACACGACC AAGCTTTTGT ACAGTAATGA TCAGATAGAC CAAAAAGACA ATCAAAGCTA    4860

GGGCAACAAG AATATATGCA ACTTCTAACA TTTAGTTTTC CTCCTCTGTA ATATAGTAAG    4920

GGGCCTTCTT TCGATTTTGA TAAATAACGA TCATTATACC GAGACCGATA AGGACAACTG    4980

ACAGCCATTG GGACACTCGA AAGCCGAAGA ACATGAGACT ATCTGTTCGC ATACCTTCGA ·   5040

TAACCATACG ACCGAAACCA TACCAAATCA AGTAAAAGGC CGTGATATGA CCTCGTCTGA    5100

GACTCTTCCA TTTCCGTCTA AAAATCAGAA TCAAGGCAAA GCCAAGCAGA TTCCATAGAG    5160

ACTCATAAAG GAAAGTCGGT TGACGGTAGC TCCCCTCAAT ATACATCTGG TCACGGATAA    5220

AGCCAGGTAG ATAATCCAGA TTATCCACTG TTGCACCATA AGCTTCTTGG TTAAAGAAAT    5280
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900

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TACCCCAACG CCCCAAACTT TGAGCAATCA TAACGCTAGG CGCCGCAATA TCTAGAAAAT      5340

CCCAAGTATT GATGAGTTTA CGGTCAGCAA AGATATAGAG CACAAGAGCC CCAGTTATCA      5400

AACCACCGTA AATGGCCAAA CCACCATTCC AAATGGCAAA AATCTCTCCT AAATTCTGAC      5460

TATAGTAATC AAATCGGAAA ATAACATAGT AGAGACGAGC TCCTAAAATA GCCAAGGGAA      5520

AGGCTACTAA GATAAAATCT AAAATATCGT CTGGTATGAT CTTCTTTCTA GGTGCTTCTT      5580

TCATGGTCAA ATAAACCGCA AGAATCAAGC CTGTCACAAT ACATAAGGCA TACCAACGAA      5640

TGGCTAGGGG TCCTAGTTGA ATAGCAATTG GATCAAGCAT TTTGCACCTC ATTTCGAGCG      5700

ATTAGACTTG TCAGTCGTTC GTCGAACAAA CGGGTCGCAT CAAAGCCCAT TTCCTTGGCA      5760

CGATAATTCA TGGCAGCTGC CTCAATCACA ACAGAGATAT TACGACCTGT TTTAACTGGA      5820

ATACGAATAC GAGGAATGtA CGCCAGAAAC TTCAAGTTCC TCTGCATTAT TTCCAAGACG      5880

ATCAAAGGTC TTATGCGTAT CGTAATTTTC CAAATAGACA GCAAGCTGAA CCTGTGAAGA      5940

ATCCTTGACA GCACTCGCAC CGTAGAGACT CATAACATCG ATAATACCAA CCCCACGAAT      6000

TTCAATCAAG TGTTTCAAAA TTTCAGCTGG TTCACCCCAG AGAGTAATCT CATCCTTGGC      6060

AAAGATATCG ACACGGTCAT CGGCTACCAA ACGGTGACCA CGTTTGACAA GCTCAAGACC      6120

TGTCTCGCTC TTACCAATTC CACTATCTCC CTGAATCAAG ACGCCCATCC CATAAATATC      6180

CATCAA                                                                6186
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(2) INFORMATION FOR SEQ ID NO: 132:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 9541 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:

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GAAAATCACA ACCCTTTTTG CAAAATTTTT GAGATTATTT TCACAAACTT GATTTTTCAA        60

AGTATACTCA ATAAAAATTA AAAAAATCCA CTACGTCAAG GCGAGGCTAA TGTGGTTTGA       120

AGAAATTTTC GAAGAGCGTG AATGAGTATC ATCTATAGTA AAATAAAAAA ACTGAACAAT       180

TTGGTTGGGG ACAGCCAAAC CAATTTCTCA CAATGTTTCA GAAACAAGGG TGTGCTATTC       240

CAATTTCAGC CTACTATAAC TGTCATAGAT TGCTGAAACA AAGTCTAGGT AAAAGTCTTC       300

ATAATAAAAA GACCTCCTAT CAAGTGTTCA AAAACTTTGA TAGGAGGTCT TGTTTTGTGA       360

AAATATTTAT CAAATTTTCT ATACAAGTGA GCTGTTAGCC AGGTTCTTTC TATTCTTTCA       420

ATTTCAATGA ATGGATTTTT TACTAATACT CATAACTGGG AATTTGTCTG TGTAAAAATA       480
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901

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GCGAGATAGA TGGTATTTAT AAAACACTCA AGACAGCTAG ACTAATATCA TTTAAAACAT        540

TATCTTCTTT TGAGCGACTG TTGGTTACCA ACATAGCTAA ATTTCCTGCA TTTTCAAATT        600

GATAGGGTTC TGATTTAGCA TTCACAACCA CCAAGAGGTG TTCTTTGCCG TGAACTTCAT        660

AGATAAGGTA GCCGCTATGT TCAATCGCAG AATGCACAAA GACATGATGG TAAATTTCAT        720

CATAGCTAGA GTAAGAAAAG GCACCAGTTT TTGTCTTCAA TCGGATGACT TGACGGATAA        780

ACTCAATACT GTCTTGACGC TCATTAATCA AGTTCCAGTT CACTTGGTTC ACACTGTCAG        840

GAGCATTATA GCTATTCATC GCACGCTCTC TATCATCATG GGTCAACTCA CCATTTTCAC        900

CAGTCGCAAC CAGTTTGGTA CGACCAAATT CTTGACCGAT TTCCATAAAG GCCATCCCCT        960

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GGTCTGGATG AAGGGTTGCC AATAAATCGT GAAGATTGTA ATTGTCATGG GCTTCTACAT       1080

AGTTAAGCAC CTGATTTGGA TGTGTATAGC TTCCTAATTC ACGACTTCCT AGGATTGCTT       1140

TAGCTAGAAT TGGCTCTGTC GCAGCACCAC TGACAAAACC TGACTTGATA GCACCATAAA       1200

CTTCTCCCCC TTTGACAGCA TCGCGCTGAT TGTCATTAAA GAAACCAATA TTTGGCATCT       1260

GGTAGGCATT GTCCTTCTTG GCCTTATCAT AAGGGGCAAG ACCTGTTCCC ATATCCCATC       1320

CTTCTCCATA GAGGATAATG TTGGAGTCGA TTTCATCCAA GCTTTGACGA ATCATCTGCA       1380

TGGTCTTGAC ATCATGAATC CCCATCAAGT CAAAACGGAA GCCGTCAATA TTATATTCCT       1440

GCACCCAGTA TAGAAGAGAA TCAATCATAT ACTTGCGAAA CATTTCGTGT TCACTGGCTG       1500

TTTCATTTCC AACACCCGTT CCATTCTGGA AGGTACCATC TGGATTCATA CGATAATAGT       1560

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GGTCTGCAAT TGGTTGCAAT TGAACATAAT TGTAGCCCAG CTTCTTGATG TAATCAAAAG       1860

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AGATAACTGC CTTACATGGA TTTTCCAAGC GCCAAGTAGC CTCCGAACCG TGCTTAACCT       2040

CGAAGTTTTC AACTTGCTTT TCTACATGGC TCAGAATAGC TGAACGTTTG CCATCAGGGC       2100

TGGTCGCGAT TGTATAAGGA TCACGTGTCA GTGTTTGGTG ATGAGGGAAT TGGACTTGAT      .2160

ACTGATAAGT CTTACCTACC AAATCTTCTT CAACATCCAA ACTCCAGACA CCGATTGTAT       2220
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902

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TGTCCTTATG ATTATAAGAG TAGCTATTGC CTCTTTTCAT CTCAAAAGTC TTCCAAACGG    2280

GTGCATCATT AGCAGCTGAT TCATAAACGA CAACTTGCAC TTCTGTCGCT GTAGGTGACC    2340

AGAGAGAAAA ATGAGCCTGA TTGTCCTCTA CACGGCAACC CAATTCTCCT TGGTAACCCC    2400

AATGATGATC AAAACTAGCA CTGTTAATGG CCTTATCAAA GGCAAAAGGA TTTTGATTTT    2460

TATAGAAAGG ACTGGCAATA GCAGGATTTT CAGAGTAATA AATCCTATCA TCGCCTTCCA    2520

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AGCTAAATAA AGCTCCAAAA TAATCTTCTT TGTAGGTTAG CAAATCAATT CGTTGATCCT    2700

GACTTTTTAC AAAGGAGCAA GTGTCATATT CTCCATTCTT ACGATGGTAA TGAATGCGCA    2760

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CGATCCATTA CAAACTTTCT AGCCATGCCT CATCTCTGAC CTGGATACCA AGTTCTTGTG    2940

CTTTTTGCAG TTTACTTCCA GCGTCTGCAC CTACCACGAC GAGGTCGGTC TTTTTAGAAA    3000

TACTACCTGT CACTTTGGCA CCCAGACTTT CGAGTTTACT TTTAGCTTCT GAGCGCTTGA    3060

GTCGTTCCAA TTTTCCTGTC AATACCACGG TCAAACCTGA CAAGGCCGCA TCCGCTACTA    3120

CCGTCTGTCC TTTATAGTCC AGATTGACCC CAGTTTCTTT CAATTCTCTG AGCAGAATTT    3180

CAGAGCCTTC TGTCGCAAAA TAAGTCTGAA GACTTTTGGC AATCACGCCA CCTAGACTTT    3240

CAATACTAGC CACTTCCTCT GAATCTGCCT GAGACAGATT TTCAATTGAA TGGAAATATT    3300

GAAGTAAAAG CTGACTAACC TTGCTTCCGA CATGACGAAT TCCCAAACCA AATAAGAGCT    3360

TCTCGGCAGA ATTTTCCTTT GATGCTTGGA TAGCCTGATA CAGTTTAGCA GCGGACTTTT    3420

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TCATAGCATC ACGAGAAGCA AAGTGAATCA AGCCTTCCAT GATTTGAGCA GGGCAACGCG    3600

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CTTTTTCAGC AATATAATCT ACATTGTGCA GGGTCGCACG GCTAACAGTC GTACCGGCAA    3840

GTTGTACTGG TGTTAGATTA GCAGTTGGAG TTACAACACC GGTACGGCCA ACTGTCCAGT    3900

CAACTGATAA GAGTTGAGCT TCTTTTTCTT CGGCAGGGAA CTTGTAGGCT ACTGCCCACT    3960

TTGGAGCCTT AACTGTAAAA CCAAGTTCTT CTTGACTTGC TAGGTCGTTG ACCTTGATTA    4020
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903

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CCACTCCATC AATATCGTAA GGCAGATTTT CCCGTTCCTG TCCTACTTCT TGGATAAAAT      4080

TCCAGATTTC ATCTATGTTT TCAGCCAAGA TTCGCTTAGG ATTGACCACA AAACCTAGTT      4140

GTTCTAGGTA CTTCAAACCC TTTTCTTGGC TATCACGAGT TGAAGGGCTG GCTTCTTGAT      4200

AGAGAAACGT TGCAAGATTA CGCTTGGCAA CTACTGCTGT ATCCAACTGA CGCAGAGTTC      4260

CTGCTGCCGC ATTACGAGGA TTAGCAAATT CAGGCTCTCC ATTTTCTTGG CGCGCTTGGT      4320

TAACTTGGTC AAAGGAAGCG CGTGGCATGT AACATTCCCC ACGAACTGTG ATATCTAGTT      4380

CTTCTGGCAA AGTCAAAGGG ATGTCCTTAA CACGCTTGAG GTTTTCTGTG ATATTTTCAC      4440

CAATTGAACC ATCTCCACGT GTTACCCCAG CAACCAAAAT CCCCTTTTCA TAAGTCAGCG      4500

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GAACACGCGC ATCAAAAGCA TCTAGCTCCT CACATGAAAA AGCATCCTGC AAACTATAAA      4620

GAGGATACTG ATGACTGTAT TTTTCAAAAC CATCTAAAAC CTTGCCACCA ACACGATGAG      4680

TCGGACTGTC TGCTAGCACT TGCTCTGGAT AAGCAGTTTC TAACTCGACC AACTCACGGT      4740

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ATAAAACAAG CCCTCCTCAC AAACGAGAAG GGCGGAAAAA ACACTTAGTT TGAAATTATT      4920

TTTGAAACTC AAGCAACCTT ATATCAATTT TTCAAAATGA GTTCGAACAT ATCCGAGAGC      4980

TAAGAAATAT AAGGCTACAA CTCCAAGTCC AATAATCAAG AAAGAATAAA GATGGACACT      5040

TGGCAAGACT GTCATAAATC CTTTTGCAAT AGGCATAAAT AGAATAGCTA AGGTAAAAAT      5100

TGTACTCAGT ACTCTTCCAA GAAATTCGCT CTCAACCTTG GTTTGTACTT GAGTAAAAAA      5160

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ATCTCTCCCA GTAAAAGCCT TTTTCTCTTG AACTTTTGCT TCCTCTTTTG GAAGGAAAGC      5580

CACTAGAACA AAAGCAATGA AAAAAGTCAG CGAGTCTAGC AGTAGCGTCA TATGGAGACT      5640

TGCAAACTGT AAAACAAGGA AGGAAAGAAC AGGAGAGCTA ACACCTACAA CCTGCAAAAC      5700

CAGCTCTAAG CGAGAATTAT AGATCACAAT CTCATCTTTC TCCACCACTT CAGTTATGAT      5760
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904

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AGCTTTATTG GCTGTGCGAG AAAAGGCAAA AGCAATAGCC TGCACAATGT TAGCAACAAT        5820
CAAAGCGCCA ATCATCCAGC TATCATTCCT TATGAAAGAA ATAGCCAGAC AAAGAATCCC        5880
ACAAACAAGA TCTGCCGTCA TTAAAATCTT ACGACGAGAA AAACGGTCTG AAATAACTCC        5940
GCCAAAGGGA TTGACGAGAA TAGATGTGAC GAGCTCAGAA ATCTGATACA TTCCTAAAAC        6000
TGTCTGTCCT ATAGTCCCCA TAGAAGCCAA CCAGACACTA TTTCCATAAT CATAGAGCAT        6060
ATTTCCCATT TTATTGATAG CCCCACGGCT AATCAACTGC ACTGCATAGC GATTCATATT        6120
AAAGCTCCTC TCAAATTTTG AAACTATTGT ATCAAAACCG AAAGGAGCTT TTTATTTTTT        6180
CCCTTATTTG GGAAAATTAA CTTTTGACAA ATTTTTCGTA GTGTTCCTGA TAATAGGCTA        6240
CTTGCTCTGG AAGACCTAAC ACATCAAAAA TATGCATGGC CTCTTGCATC TGCTTACAGC        6300
CTTCTTTACA CTGTCCTTTT TGATATAAGG CAAAACCTTT TAAATAATGG AAAACATTAC        6360
GCTCATAAAG CTTAATACCT TTGTCAATAA TCTTCTCTGT ATAAGCCTCA AAATAGTTGG        6420
CATTATAAAA AGAAGAATGC TCTAAACAAT GCTGGTAACA ATTGAGGGCC AAAATCAACA        6480
CTAATCTCTT ATGGCGACTA ATCTCTTGGT AAAATTCCTC CCTCTCCATA ACTTCTCTAC        6540
CAATCCGAGT GACATAGTCT ACATCGTAGA AACTATAGAG GTTACCGAAA AGAATCAACT        6600
CATACATGGT CCATTCTTCT GTTTTGAAGA GATAATCTGC TACCTTACCC AAATCATCCT        6660
GCTTCATATC ATAACTCGCA TCTCTTTGAC AAATCAGACC TTGTAGCAAA ATCCAGTTCA        6720
GCTCAAAATA AAGGGGAGTC GTCGAACTCT TAGACTTTTC AAGTTGTTCT CTTTGAAGCT        6780
TTTGAAAACC TGCAATATCG TTTGAATAGT AAAGTGGGAT AATCTGTGCC ATCATAGACA        6840
CATGTTCATG ATTATGAAAA TTCCTTGCCT TATCCATGAA ATTTTCGATT GTTACATGAA        6900
TGTTATCCAA AATCTCAAAG AAACGGGAGA CTGCCAGGTC AGACTCCCCA AGCTCAAAGC        6960
GAGATAACTG AGAGGTAGAG CAGGATTCGC CTGCTGCTTC CTTTAAAGAA TAATTTCCAC        7020
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TAATTCCATG AGTTTGTCGG CATCGTTTGT TTCCAACATT TGTTCAGAAA TGGCTTGGCT        7200
TTGACTTTCT AGCTCTTCAA TTTCAGCTTC TAGACTTTCG ATTTGTCGCA TGAGTTTGCG        7260
AACTTCTTTT TGACTTTCTT TCTGGGCCTG ATAGTCATTG ACTGGACTTG CTTCCTTTGC        7320
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ATAGTAGTCG TAATCTCCAA GGTAGAGAGT TGAACCATTC TCAGACAATT CCAAAACATG        7440
AGTTGCCACA CGATTGATAA AGTAACGATC ATGACTGACA AACAGCAAGG TTCCATCAAA        7500
GTCAATCAAG GCATTTTCTA GCACTTCCTT ACTATCAATA TCCAAGTGGT TGGTCGGCTC        7560
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905

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ATCCAGAATC AAAAAGTTAT TGTTTTCCAT AGACAATTTA GCTAAAAGCA AACGAGCTTT        7620

TTCGCCACCA GATAGCATGC CGACTGATTT TTTAACATCA TCTCCTGAGA AAAGGAAGGC        7680

TCCAAGACGG TTGCGGATTT CAACTTCTGG TGTCAGTTTG AAATCATTCC AGAGTTCATC        7740

CAGCACCGTA TTACTTGGTG TCAGCTTGCT TTGGGTTTGG TCATAGTAAC CAACCTCAAC        7800

ATTAGCGCCA AAGCGCTTTT CTCCCTTGAT AAAAGGAATC TGGTCCACAA TAGACTTGAT        7860

AAAGGTTGAC TTGCCGATAC CATTTGGACC AACGATAGCG ACAGCATTCA TCTTACGAAG        7920

ATCTAGGTTA ATCGGTTGTG ACAAGACTTC CCCGTCATAG CCAACAGCTG CATTTTCAAC        7980

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TCCATTCAAA ATCGCTCGAA TATCAGCTTC ATAGGTAAAG CCACCTGCTT GGCGAAAATT       8580

CTCAGATAAG CGGTCATAAT CTGACATCAG TTTATCCAAA TCCTCACCAG ACTTTTCACC        8640

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AGTTATCGCA CAAGTCTATT ATTTAATTCT TTTCATCATT TACGTACGTA TAGCAGATTG        9180

AAATAAGATG AGAACAAATC GATTGGGAAA GTAAAATTAA TTTCTATAAA TGTTTTAGCA        9240

ATTGTTTCGT ACTATTTTAG ATTCAGTCTA CTATATACAA TATTTTCGGA ACATTCAACT       9300
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906

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TTTTAACTCT ATTTATTACT AGATTTCATA ATTAAAAAAC CTACTGACCA AGCTAGAAAG        9360

CTTGATACAA TAGGCTTTTT AAAGACTGAT TATTTAACAG CGTCTTTAAG AGCTTTACCA        9420

GCTTTGAATG CTGGTACTTT AGAAGCTGCA ATTGTCATTT CTTTACCAGT TTGTGGGTTG        9480

CGACCTTTAC GTTCTGCGCG CTCACGAACT TCAAAGTTAC CAAAACCGAT CAATTGAACT        9540

T                                                                       9541
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(2) INFORMATION FOR SEQ ID NO: 133:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3502 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 133:

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TTGACTATCC TATCATGCTT TCTAAGGTCT ACTCAAGAAA ATCATTTTCA AGTTTTCACA          60

CCTTTCTCAA AAAAGTTAAA AAATTTTCTC AAAAACGCTT GACTCTGACC TAAGGCGAAG         120

GGTTATACTA TCATTGTAAG GAGGAAATCA TGTACCATAT AAAAGAAGCT GCGCAGCTTT         180

CAGGTGTCTC TGTCAAGACC CTGCATCACT ATGACAAGAT AGGACTCTTG GTCCCCTTAA         240

AGTCGGAAAA CGGCTATCGA ACCTACAGTC AAGAGGATTT GGAACGCCTT CAGGTCATTC         300

TTTACTACAA ATATCTAGGC TTTTCTTTAG AGAAAATAGC AGAGCTGTTA AAGGAAGAAA         360

GGACAGATTT ATTGCCCCAT TTGACTAGGC AGTTGGACTA TCTAACTCGC GAAAGGCAAC         420

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AATTTCCTAG CCTATTTTTT ACTTCAAATC ATAAAGCCAG TCGTCACCGT TTTTGTAGTA         960

AAAGAATTCA CTGAGATCTT CTTCTAGAAA CACACGAAGC ATATCAGACA TATCATCGGT        1020

TGCAAGTTTT AGATGAGAAA GATTTTCAAA GTCCTCCCAC CAAACTTTCC CTTCGTCTGA        1080

AGACTGGAGT TCACCAGTAA AGTGTTCTGT CTTGTAAAAA AGGACGACAT AACGATAATC        1140
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907

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CTTGTCGTCA TACCAGTTTT TGATACCACA GAGTTGGGGT TTGGAAATGA TCAGACCAGT     1200
TTCTTCTTTC ACTTCACGAA TGACAGCATC GACAAAGGAT TCGCCACGTT CAACATGACC     1260
ACCAGGAAAA GTAATGCCAG ACCAGTCGGG ATTAACTCGG TCTTGGACCA GGACCTTATC     1320
TCCGTTTTTA ATCATACACA TGTTAACAAA TTCGACTGCC TCTCTTCTGT TCATTCTTCA     1380
CAACCTTTAA TCTTTAATCA TAATGCAGAC TTCCCGCCAC CCAGCCGGTA CAGAGGGCAG     1440
AAGTGATGTT AAAGCCACCC GTGTGGGCAT TGATATCCAT AACTTCGCCT GCAAAGTGGA     1500
GGCCAGGTAC CAGCTTACTT TCAAGGGTTT TAGGATTGAT TTCCTTGAGA CTGACTCCAC     1560
CCTTGGTAAC AAAGGACTTT GCAAGGGACA TTTTTCCAGT TACAGGAATT TTAAGTTCTT     1620
TAATGGACTG GACAAGTTGT TCTCGTTCCT TTTCAGTCAG TTGTTTGACT TTTTCAGGAT     1680
ATCCTTGTAC AAAAAATTCG GCCAAGCGTT CTGGTAACAA GGTTTTTAAA GCGTTTTTCA     1740
AGGATTTTTC CCGATTTTCT TCTAGAAATG TAACCAAGTC CTTCTCAGAA AGTTGAGGCA     1800
AAACATCGAG TGAGAGAACC TCCCCACCTT TGACAAAGCT AGACATGCGT AGGGCAGCAG     1860
GACCTGACAA ACCAAAGTGG GTAAAGAGTA AATCATGAGT GATGACATGC TTACCATAAC     1920
TTAGGGTCAC ATCGTCCAGA GAAATACCTT GTAAGGCTTT ATGTGGAAAA TCTGTTAATA     1980
AAGGACTTTC AGCAGCCTCA AGATCGGTGA TGGTATGCTT AAAATGGCGA GCAATCTCGT     2040
GACCAAAACC AGTCGAACCA GTCGAAGGAT AAGACTTACC ACCTGTTGTG ACAATGAGTT     2100
TCTCACAAGT GAAGGTTTGA TCCGCTGACT TAAGGACAAA CTGGTCATCT ACTTTTTTAA     2160
CAGAAACGAT TTCTATTTGA GTAGCAACTT GACCACCTAG TTCGGTGATT TTCTTTTCCA     2220
AAGCTTCGAT AATAGTCCGA GACTTGTCAC TGGCTGGAAA GACGCGTCCG TGGTCTTCGA     2280
CCTTAAGTTT AACACCATTT TCTGTAAAAA AGTTGATGAT GTCATGATTA TCGAACTGGG     2340
AGAAAACACT GTAAAGAAAG CGTCCGTTTC CAGGAATTCC AGCTAGCAGG TTGTCTAAGC     2400
TACCATTGTT GGTCACATTG CAACGTCCCC CACCAGTCCC AGCTAATTTT TTTCCAAGTT     2460
TCCGATTTTT TTCGATGAGG AGGGTTTTCT GTCCATAAAA GCTACTGGAA ATCGTAGCCA     2520
TCATACCAGC AGGTCCCCCA CCGATGACAA TAGTATCAAA ATGTTTCATA GCTCTATTGT     2580
ACCACAAAAA AACAAGAGAT GATGGTCACC TCTTGTCAAG AATGCAATTA ATCAATTTCA     2640
TAGCCCATCA GCAAACCGCC CTCTTCTGCA TAGAAACTGC AGAGACCAGA GGTTGGTAGA     2700
ATTTTAATAT CCGCTTGTGG GAAGGTTTCA CGGATTCGCT CTGAGAGCTG TTGACAACAT     2760
TTTTCGTTAT TGCGTTGGGC CATGACAATA CGGCCACCAG CATATCCAGC TTTTACTAAC     2820
TCATCATAGG CAGCTTGAAC TGATTTCTTT GATCCCCTTG CTTTTTGTAG CAATTCGAGA     2880
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908

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GTCCCAGTTT CACTAGCTTT TCCGACCATA CGAATGTTGA GAAGGCCAAC GACCGTACCG    2940

ATAAGCTTGC TCAAACGGCC GTTCTTCACC AAGTTATCGA CTTTGGCTAG GACAAAGAGC    3000

AACTTAGTTT TTTCTTGATA GGCGGTGATA GCTTCAACCA CTTCTTCAAA AGACAAGCCC    3060

TGGTCAATCA AGTCATTCAA TTTTTCTACG AGTAGGTCAA CTTCACCACC AGCAGATAAA    3120

CTATCAATCA CATGAATCTT AGTGTCAGGA TGGTCTTCCA GATAAATATT CTTTGCTAGT    3180

TGAGCACTAT TGTGACTGCC AGAAAGGGTA CCTGTGATGG TTACTAGGAA AATGTTTTTG    3240

GCACCTTCAA ATGCTCGCAA ATAGTCATCT GGGCTTGGAC AAGCCGATTT TGAAGCTTCT    3300

GCAGTTGCAT ACATGGTTTC CATCATTTGG TCAATATCGA GACTGGCGTC ATCAACAAAG    3360

ACCTGATCAG CTACTTGAAT GGTTAAGGGG ACACTTACAA AGGTTGTGTT AATAGCTGGT    3420

GTTGGCAGTT GACGATAATC ACAACCAGAG TCAGCAATAA TCTTCCAAGT CATAGAAATT    3480

CTCCATCTTT GTCAGGAACG AT                                             3502
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(2) INFORMATION FOR SEQ ID NO: 134:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 12665 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 134:

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CGATTGATTT TTTTAAAGCG TTCGATAGAG AATGAGAAAC GAATCCTTAG CAATGGCGGG     60

AAAGAATTTG GAGTTGAGAA TACAAAACGA TTAACTATGG CTCATATTGT TTTTTATCTC    120

TCTTGCTTGG TTGAGGCAAT GGTGCACAAG ACAATTTTTG ATGGCATGGG CATGGTTGGT    180

TTAGTCTTGC TTATTTTTTC TATGCTGATG TTGATGTTGG TGATTCACTT GTTGGGAGAT    240

ATTTGGACAG TGAAGCTTAT GCTTGTCAAT AATCACAAAT ATGTAGATCA TATCTTGTTT    300

AGGACAGTAA AACACCCTAA TTACTTTTTA AATATTCTTC CTGAGTTGAT TGGCTTGACC    360

TTGTTGAGTC ATGCTTATGT GACTTTTGTT TTAGTTTTTC CAGTTTATGC AGTTATTTTG    420

TATCGACGAA TAGCTGAAGA GGAAAAGCTA TTACATGAAG TTATAATCCC AAATGGAAGC    480

ATAAAGAGAT AAATACAAAA TTCGATTTAT ATACAGTTCA TATTGAAGTG ATATAGTAAG    540

GTTAAAGAAA AAATATAGAA GGAAATAAAC ATGTTTGCAT CAAAAAGCGA AAGAAAAGTA    600

CATTATTCAA TTCGTAAATT TAGTGTTGGA GTAGCTAGTG TAGTTGTTGC CAGTCTTGTT    660

ATGGGAAGTG TGGTTCATGC GACAGAGAAC GAGGGAGCTA CCCAAGTACC CACTTCTTCT    720

AATAGGGCAA ATGAAAGTCA GGCAGAACAA GGAGAACAAC CTAAAAAACT CGATTCAGAA    780
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909

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CGAGATAAGG CAAGGAAAGA GGTCGAGGAA TATGTAAAAA AAATAGTGGG TGAGAGCTAT          840

GCAAAATCAA CTAAAAAGCG ACATACAATT ACTGTAGCTC TAGTTAACGA GTTGAACAAC          900

ATTAAGAACG AGTATTTGAA TAAAATAGTT GAATCAACCT CAGAAAGCCA ACTACAGATA          960

CTGATGATGG AGAGTCGATC AAAAGTAGAT GAAGCTGTGT CTAAGTTTGA AAAGGACTCA         1020

TCTTCTTCGT CAAGTTCAGA CTCTTCCACT AAACCGGAAG CTTCAGATAC AGCGAAGCCA         1080

AACAAGCCGA CAGAACCAGG AGAAAAGGTA GCAGAAGCTA AGAAGAAGGT TGAAGAAGCT         1140

GAGAAAAAAG CCAAGGATCA AAAAGAAGAA GATCGTCGTA ACTACCCAAC CATTACTTAC         1200

AAAACGCTTG AACTTGAAAT TGCTGAGTCC GATGTGGAAG TTAAAAAAGC GGAGCTTGAA         1260

CTAGTAAAAG TGAAAGCTAA CGAACCTCGA GACGAGCAAA AAATTAAGCA AGCAGAAGCG         1320

GAAGTTGAGA GTAAACAAGC TGAGGCTACA AGGTTAAAAA AAATCAAGAC AGATCGTGAA         1380

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AAGTCTTCAG ATTCTAGCGT AGGTGAAGAA ACTCTTCCAA GCCCATCCCT GAAACCAGAA         1560

AAAAAGGTAG CAGAAGCTGA GAAGAAGGTT GAAGAAGCTA AGAAAAAAGC CGAGGATCAA         1620

AAAGAAGAAG ATCGCCGTAA CTACCCAACC AATACTTACA AAACGCTTGA ACTTGAAATT         1680

GCTGAGTCCG ATGTGGAAGT TAAAAAAGCG GAGCTTGAAC TAGTAAAAGA GGAAGCTAAG         1740

GAACCTCGAA ACGAGGAAAA AGTTAAGCAA GCAAAAGCGG AAGTTGAGAG TAAAAAAGCT         1800

GAGGCTACAA GGTTAGAAAA AATCAAGACA GATCGTAAAA AAGCAGAAGA AGAAGCTAAA         1860

CGAAAAGCAG CAGAAGAAGA TAAAGTTAAA GAAAAACCAG CTGAACAACC ACAACCAGCG         1920

CCGGCTCCAA AAGCAGAAAA ACCAGCTCCA GCTCCAAAAC CAGAGAATCC AGCTGAACAA         1980

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GAAGAATATA ATCGCTTGAC TCAACAGCAA CCGCCAAAAA CTGAAAAACC AGCACAACCA         2100

TCTACTCCAA AAACAGGCTG GAAACAAGAA AACGGTATGT GGTACTTCTA CAATACTGAT         2160

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GGCGCTATGG CGACAGGATG GCTCCAAAAC AATGGTTCAT GGTACTATCT AAACGCTAAT         2280

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GGTGATATGG CGACAGGTTG GGTGAAAGAT GGAGATACCT GGTACTATCT TGAAGCATCA         2520
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910

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GGTGCTATGA AAGCAAGCCA ATGGTTCAAA GTATCAGATA AATGGTACTA TGTCAATGGC        2580

TCAGGTGCCC TTGCAGTCAA CACAACTGTA GATGGCTATG GAGTCAATGC CAATGGTGAA        2640

TGGGTAAACT AAACCTAATA TAACTAGTTA ATACTGACTT CCTGTAAGAA CTCTTTAAAG        2700

TATTCCCTAC AAATACCATA TCCTTTCAGT AGATAATATA CCCTTGTAGG AAGTTTAGAT        2760

TAAAAAATAA CTCTGTAATC TCTAGCCGGA TTTATAGCGC TAGAGACTAC GGAGTTTTTT        2820

TGATGAGGAA AGAATGGCGG CATTCAAGAG GCTCTTTAAG AGAGTTACGG GTTTTAAACT        2880

ATTAAGCCTT CTCCAATTGC AAGAGGGTTT CAATCTCTGC CAGGGTGCTG GCTTGCGAAA        2940

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GGAATTCACG AACTGCGACG TTTTCTCCTT TGAGGTTAAT CAATCGTTTC AAGTGTTCGT        3060

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TGGCGATGAA TGGAATCTTG GTTAGAGCTT GGGCAACCTT GTAAAGGGTC TCAAGGTCTG        3300

CGTGGCCAGT ATACATTTGT TCACGGGTAC GGCCATGCAT GGCGAGGGCA GAAACACCTG        3360

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TCACGCCAGC CATAGGCGCT AAAACGGTAC GATTGGGAAT CTCAATATTG CCAATCATAA        3840

AAGGTGTATT AAGATTTGTC ACGAATGAGT TCCTCCAGGT CCTTTTCATC AAAGTTGTAA        3900

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AAGTCTGAGC TTGGAAGGCT GGCAAGAGCG TTCATAAAGC GTTCATGGCT ACAGTCACAT        4020

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GAAGGCGTTT GTTGGCTTTC AGTAAGGTAA AAGGCAAGGT CTTCACCGAT TTCTCCAGAG        4320
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911

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TGACCATTTC CAACAAAAGG TCCGACTAGG ACTTCACCAG TCGCAGTCTT TTTGATGTCA      4440

ACACCAGGAT TTTGAACATA GCCTTTGACG TTCCCCTTGG TATCAGCGAC GGTGATAATA      4500

GCACCTAGAG AGCTAGATCC CAACACCTTA ACTGTAAGTT TGGTATTTCC TTTTTCATTG      4560

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TTTGTCAGAA TTTGATTTAT CCATCCAAAA TGGCCGTTGG CGAGGTCCAG AGCATCAGAT      5340

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ACAGGATCGC TACAAGTACC AGTTAGAGAA TCGTCATCCA TATTTACTGA TGGAACATGA      5940

TTTTAAAGAG ACAGCAGAGG AGATTTTTCA TGCTCTACCT GCTTTTCAAC AGGGGACAGA      6000

TTTAGATAAG AAGATTCTCT GGGAATGGCT CCAGTTAATC GAATATATGG CTGAAAACGG      6060
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912

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TGGCCAGCAT ATGCGGATTG GTCTGGATTT GACATCTGGT TTTCTTGTCT TTTCAAGGAT    6120

GGCAGCCATT TTGAAACGGT ATTTGGAATA CAATCGTTTT ATTACCATTG AAGCTTATGA    6180

CCCTAGTCGG CATTATGATT TGCTGGTTAC CAATAACCCG ATTCATAAGA AGGAACAGAC    6240

ACCAGTCTAT TATTTAAAAA ATGACTTGGA TATGGAGGAT TTGGTAGCGA TTCGCCAGTT    6300

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913

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914

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AAACTTCCAT TTTCTTTGAG CAACATGGAT ATAAGTACTT GTTATGTAGT ATGGATATGG     11340

GCTTTGTGAA TCCAAGTAAG ACTGATAAGC TTGTATACCA AAATATGCTC CACCAATTAT     11400
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915

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TGCACCCCAT GGACCCCCCA ATAAAGCACC TATCCTACCA ATCATATAAC TGATTCCAGC    11460
ACCAGTCATG AAGTTAGCGA ATGTGTTAGC TTGTTTATTC CCATGTATTG TGTTGACGTA    11520
ATTCCAAACA TTAGGATCGT ATGATCTAAA AGATATATTT AGGTCGATTT CATTCTTTTG    11580
ATAAGCCATA TAAAATGCCC CATTGATATA GACGCCGTCA GCACGTCGTT CAATAGTGTC    11640
TACACTTCCA TCTGGATTGA CAACCTCAAG AACTTCATCG CTTAAAATAT TTACTTGCGT    11700
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GTTTGCCGAT AAGCTATCAT CAGCAAAAAC AAACAAGCGA CGGGGAAATG CTAGACATAC    11820
AGAAAACAGA CATAACTAGC AAACACATGC ATTTAAACAT CTTAGACATA ACGGAAACTC    11880
CTTTGTATTT TTGATTTTTT TCAACTTTTA TTATACAATA AAACCAAATA AAAAGAAAGC    11940
GGTAACAATA TGCTTAATGC GAAAATTTTT TATATATTTT TATGTTTGAT CGTTATCGAA    12000
ACTACAGGCT TGTTGTTGTT GAAAAGAGGT CTCGAAATGG GTTATTTAGA CACAGAAGCT    12060
ATTATCCTCG CAGTTTTTTC ATTTGCTTTT TACAACCTAT GTTCATTCGC TTGGGTCTGC    12120
TCTACAATAA AAAACAATAA AAAATAAATA GACGTATTTT CAAAAAAAAC maAATGCATA    12180
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TATATCTGAG GTGTAAGTCC TCAGCCTGAC TATCGTGAGG TAGCAGGGAG AGGAAGGGAT    12300
AGCGAAATCG TGGCTCTACG AACAGGAACG TGATAGTAAG GCGTATATAG CGGATAAGGA    12360
GGCTTCAAAC TCTAAAGTCC AAAAAGGTAG TCGTAACCTA TATGTGTAAA TCACGAGAGT    12420
AATTGAATTC GGACTAAGGT TTGTGTGAAA AAGATAAATC TTTCTAGAGT CTAAAGACTC    12480
TGCGTCAGAT TTCCTATTTT CACTGTAACC TTTTAACGTC CTCATATCTT GTATAAACGA    12540
GGAAAGATGT ACGACTTATC CCGTGAGGTT TCATGAGCGT GAAAGCGTAG TAACAACGAA    12600
TCATGAGAAG TCAGCCGAGC CCATAGTAGT GAGGAAACTT CCGTAATGGA AGTGGAGCGA    12660
AGGGG                                                               12665
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(2) INFORMATION FOR SEQ ID NO: 135:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5305 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 135:

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CGCTAATCAC TACAATCATT TTATTGTACT TTTTCACTCT CAAGAAAAGC AAGAAGTATT    60
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916

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CATTTTAGTT TCATTTAGTA TTATTTTGCA TACCTAAAAT ACAGTAAAAA ATCAGTCATC      120

TTGGTATGCT CCTGCTTTCA CTATTCAACA CGTTTTTGAC TTATACTAGG CTCATTTCCA      180

AAAGCATTAT ATAATAGTGA TATGAAACCA ACTAAACTAA ACAAGAAATA TAAGCAATAA      240

AAATTCGTTT AAAAGATCTT ACTAAAGCTA ATACTAAATA AAAATAAAAG AGTAAACTAG      300

GAAGTTTATT TCAAACAACC TAAAATACTG ATTTTCGGCT GAAGATAATA CTGGAGTGCA      360

AATTAATGGG GTTATAATAA ATAGCTGATA GCTTGTGTTG GTTTTGGATT TTTTAAGAGT      420

AGATGAGTAT TAAAACTATA AGGAGGACGA AGGTGGCTAA AAATTTAAAA TTAAAATTAG      480

CTCGGGTAGA GCGTGATTTA ACACAAGGTC AACTGGCAGA GGCTGTCGGG GTGACACGCC      540

AGACTATTGG TTTAATAGAG GCGGGAAAAT ACAATCCCAG TCTCTCGCTC TGCCAGTCTA      600

TTTGCAGATG TTTAGGGAAA ACCCTAGACC AACTATTTTG GGAGGAAGAA GATGAAAAAT      660

AGATTTTATT ATTCTCAATT ACTAGACGAA AGAGAAGAAC AACTGTTCAA TAAAGCGGGC      720

TCTGAAAGTT TCTATATCTG CATTGCTTTG TCGCTCCTAT CTTATATCAT TTCAGTATTA      780

GCACCAAGCC TTTTTAATTC TAATATGCTG CTAATCGTTA TCATCATAGG GACATTTTAC      840

TTTTTCAATC GTGCCCGTTA TCTGGGAGTG ACCTACTATG GTCGTTTTCA TTTTACGATT      900

TTGGGTTGTT TTTTCCTAAC CTTGGCTATT ACGGCTCTTT TGATGTTGCA GAATTATCAA      960

TTCAACATAG AAATTTATCA GCACAATCCT TTGAATTTTA AATACCTGTC TGCTTGGGTC      1020

ATTACTTATA TCATTTACCT TCCGTGGATC TTTATTGGCA ATCTTGGTCT TAAGAGCTAT      1080

GGCGAATGGG CTCAGAAAAA ATTTGAACAA GATATGGATG AATTGGAGAG TGGAGAATAG      1140

CTTGTTACTC TTTTCTCAAT CCAGCTAAAA TGTGATATAA TAGTACTAAT TTATTGGAAT      1200

ACATGAAAGT TCTTGAAAAT TTTCATGGGT TTCTAGCTAA GGAAGTAGGA AAAGTATGTA      1260

TCCAGATGAT AGTTTGACAT TGCACACGGA CTTGTACCAG ATCAACATGA TGCAGGTTTA      1320

CTTTGACCAA GGGATTCACA ATAAGAAGGC GGTCTTTGAG GTGTATTTCC GCCAACAGCC      1380

TTTTAAGAAC GGCTATGCGG TTTTTGCAGG TTTAGAAAGA ATTGTGAACT ATCTTGAAGA      1440

CTTGCGTTTT TCAGATAGTG ATATAGCCTA TTTGGAGTCG CTTGGTTATC ATGGGGCGTT      1500

CTTGGATTAC CTTCGCAATT TCAAGTTGGA GTTGACCGTT CGTTCTGCCC AAGAAGGGGA      1560

TTTGGTTTTT GCTAATGAAC CGATTGTGCA GGTGGAAGGA CCTCTAGCCC AATGTCAGTT      1620

GGTCGAAACG GCTCTTTTGA ACATCGTCAA CTACCAGACT TTGGTGGCGA CGAAGGCAGC      1680

TCGTATTCGT TCGGTTATCG AAGATGAACC CTTGATGGAG TTTGGGACAC GTCGGGCTCA      1740

AGAAATGGAT GCGGCCATCT GGGGAACACG CGCAGCTGTG ATTGGTGGCG CCAATGGAAC      1800

CAGCAACGTG CGTGCGGGTA AGCTCTTTGA CATTCCTGTT TTGGGAACCC ATGCCCATGC      1860
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917

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CTTGGTACAG GTTTATGGCA ATGACTATGA AGCTTTCAAG GCTTACGCTG CGACCCACAA      1920

AAATTGTGTC TTTCTTGTGG ATACCTATGA CACCCTTCGC ATCGGTGTAC CAGCTGCCAT      1980

TCAGGTGGCG CGTGAGCTGG GTGATCAGAT TAACTTTATG GGTGTGCGGA TTGACTCTGG      2040

GGATATTGCC TACATTTCTA AGAAAGTCCG TCAGCAACTG GATGAGGCTG GATTTACAGA      2100

GGCTAAGATT TATGCTTCTA ATGATCTAGA TGAAAATACC ATCCTTAACC TCAAGATGCA      2160

AAAGGCCAAG ATTGATGTCT GGGGTGTGGG TACCAAGCTG ATTACAGCCT ATGACCAGCC      2220

GGCTCTTGGG GCGGTTTACA AGATTGTTGC AATCGAAGAT GAAACTGGTC AGATGCGCAA      2280

TACGATTAAG CTGTCTAATA ATGCTGAAAA AGTTTCTACG CCAGGTAAGA AGCAGGTGTG      2340

GCGCATTACC AGTCGTGAAA AAGGCAAGTC AGAAGGCGAC TATATCACTT ATGATGGTGT      2400

GGATATTAGC GACATGACAG AAATCAAGAT GTTCCATCCG ACCTATACAT ACATCAAGAA      2460

GACGGTTCGT AATTTTGATG CCGTTCCTCT CTTGGTGGAT ATCTTCAAAG AAGGAATATT      2520

AGTTTACAAC TTGCCTAGTT TGACTGACAT TCAGGATTAT GCCCGTAAGG AATTTGACAA      2580

GTTGTGGGAT GAGTATAAGC GTGTGCTCAA TCCGCAGCAC TATCCAGTGG ATTTGGCGCG      2640

TGATGTATGG CAAGATAAGA TGGACTTGAT TGATAAGATG CGCAAGGAAG CCCTTGGTGA      2700

AGGAGAAGAA GAATGAGTTT GCAAGAAACG ATTATCCAAG AGCTGGGTGT CAAACCAGTG      2760

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CATCCCTTCC TAAAAACCTT TGTACTAGGG ATTTCTGGGG GACAAGACTC AACCTTGGCA      2880

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AAATTTATCG CTGTCCGCCT GCCATACGGA GTGCAAGCTG ATGAAGCAGA TGCTCAAAAA      3000

GCCCTAGCCT TCATCCAGCC AGATGTCAGC TTGGTTGTGA ATATCAAGGA ATCAGCTGAT      3060

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GTCATTGGAA CAGACCACGC CGCGGAAAAT ATCACAGGTT TCTTTACCAA GTTTGGTGAC      3240

GGCGGTGCGG ATATTCTCCC TCTTTACCGC CTCAATAAAC GCCAAGGAAA ACAGCTCTTG      3300

CAGAAACTTG GCGCAGAGCC AGCCCTTTAT GAAAAAATCC CAACGGCAGA CCTAGAAGAA      3360

GATAAACCAG GCCTAGCTGA CGAAGTCGCA CTTGGAGTCA CCTACGCAGA GATTGACGAC      3420

TACCTAGAAG GCAAAACAAT CAGCCCAGAA GCTCAAGCGA CCATTGAAAA CTGGTGGCAC      3480

AAAGGCCAAC ACAAACGCCA CTTACCCATC ACCGTATTTG ATGACTTTTG GGAGTAAAAA      3540

GGTCCGGGGG ACCTTTTTAG CTTCTTGCCC TGAAATTAAA AAGCAAGAAA AACCTCCACT      3600
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918

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GGAGGTTTTC AGCCTCTCAT CTTGAAATAA GAAAGTGAGA GAAGGTCTGG GGGATCTTGA    3660

ACCCCGAGTT TAGAAATAAG AAAATGAGGC AGATTCAGTA ACTCGAAGAG TTCGATTTCA    3720

TCGTCTTACC CCTGCAACGA TGACTAGGTT TGAAAAAGCT TGCTAGAGCG CATTTCAAAC    3780

CAGGCAGCAA CTGCGTCAAG AAATTAGAAG ACAAACTCGT TTTCTAGCTG TTACTGAGTT    3840

GAGCCTTTTT ACTACGAGTA TAGAAATAAG GAAGTGAGGT AGCATCATGA AATCTATCGG    3900

TACGCAAATA TTACAGACAG AACGTTTGAT TTTAAGAAGA TTTGTGGAGA GTGATGCAGA    3960

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CCATCCTGAT GTCGAAATCA CTCGAAACTC GATTTGCAAT TGGGTTGCTT CCTATACTAA    4080

TCTCAACTAT TATAAATGGG CCATTTGTCT AAAAGAAAAC CCAGAGCAAG TAATAGGAGA    4140

TATCAGCATT GTTAAGATAG ACGAGGCTGA TTTAAGCTGT GAAATTGGCT ATGTGTTAGG    4200

CAAGGCTTAC TGGGGAAATG GTATGATGAC AGAGACTTTG AAAGCTATCT TGGACTTTTG    4260

TTTTACTCAA GCAGGTTTTC AAAAGGTCAG AGCACGTTAT GCCAGTCTCA ACCCAGCTTC    4320

AGGTCGTGTC ATGGAAAAGG CTGGAATGTC CTATCTACAA ACCATTGTTA ATGGTGTAGA    4380

GAGAAAAGGC TATCTTGCGG ATCTTATTTA TTATGGTATA AGTAGGGAAG AATGTTGAAT    4440

TCTATTTTCT GTTTCTATCG AAGTCAACTA TTTATTGTAA ATATAATAAT TAGCATTCCA    4500

AGTTTATTTG AAACTTTAAA ATAGCATATT GATTAGTACA AGACAGATGT TCTAGTTCCT    4560

TCTTTAATCT GGTTTAGTGT TAGTTAAAAA ATCGCTTTAA GCTTGTAACT AAGAGGGAGC    4620

TAATCGACTA GATTCTCCAG CCGAACAGGT GGTAATGTAC TTTTTATAGT GTAATCCTAG    4680

CTGTTGTTAA ATTTAAAATA GAATCCTCTA TCGAGTTAGG GAATTAAATT CAACCAATTT    4740

TATTCATGTT TTTTCTATCA AATTATCTAA TATTAAAATA GTCTCATTCT GATGAGAAAA    4800

CTATTCCCAA ATCATTCATA CCTCTCTCAA CTAGATGTAA CTTACAAAAC CCCTGACCTC    4860

ATGAGCCACT TTCTTCCTCC TCATGAGGTC AGTTTTACTT TCTGCTGTTC CAGTATCGTT    4920

TTTCCTCGCT AGATTTCCTC AAAAGGGCAG ACTCCTCCCT TGGTGCGTCA CACGATTTTT    4980

TCATCTCGAC TGTTCTTTAA TGCATCATTA ACGACGCTTT TCTTCTAGGT GGTTCATAAG    5040

GAACAGGAAG ATTCAGGTTG ACTTTTCTAA TCCTAGAATA AAGTGCTGAA AACAATTCGG    5100

AATAGGCATA GAGACTAGAC AATTTGAGGA GCTGCTTGCG TCCTGTTCGA ACACATTTTC    5160

CCACCACGTG AAGAAAAAGA TGGCGGAAGC GTTTGATTGT TAAAGTTTGG AAGTCACCTC    5220

CAGCTAGATG TTTGAGAAAA AGATAGAGAT TGTAGGCGAT ACAGCTCATC ATCATACGAA    5280

CTTCGTTTTT GATTAAGGTT GAACT                                         5305
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(2) INFORMATION FOR SEQ ID NO: 136:

919

(i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 3964 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 136:

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TGGCAGCTCG TCGTCGTAAA GGACGCAAAG TTTTGGCTGC ATAATCCAAA CGAATTCTAT      60

CAAAAATCAG TAGGAACTCG AGTCTACTGA TTTTTATTTT TGTAAAAAAG TTCAGTAGAT     120

GCAAATGGAT TCGGAAGCGA TGTTACAGTA GATTGAAACT AGAATAGTAC ACCTCTGTTT     180

CTAAAACATT GTTAGAAATC GATTTGACTG TCCTGATCGA TTTGTCCTGT TATTATTTTA     240

TTTTACTATA AAGTTGAAGT AGGTGGAGAT GGTACAGCAA CAATCGTCTT TAAAGATGGT     300

TCAGCTATTA CAATTCCAGG AAATCAATTG GTAGCACAAG ATCCAAAAGC ACAAGATAGC     360

ACTAAACTGA CTGCTGAAAA ATCAACTGTT AAAGCACCTG CTCAAAGAGT AGATGTAAAA     420

GATATAACTC ATTTAACAGA TGAAGAAAAA GTTAAGGTTG CTATTTTACA AGCAAATGGT     480

TCAGCATTAG ACGGAGCGAC AATCAATGTA GCTGGAGATG GTACAGCAAC AATCACATTC     540

CCAGATGGTT CAGTAGTGAC GATTCTAGGA AAAGATACAG TTCAACAATC TGCGAAAGGT     600

GAATCTGTAA CTCAAGAAGC TACACCAGAG TATAAGCTAG AAAATACACC AGGTGGAGAT     660

AAGGGAGGCA ATACTGGAAG CTCAGATGCT AATGCGAATG AAGGCGGTGG TAGCCAGGCG     720

GGTGGATCAG CTCACACAGG TTCACAAAAC TCAGCTCAAT CACAAGCTTC TAAGCAATTA     780

GCTACTGAAA AAGAATCAGC TAAAAATGCC ATTGAAAAAG CAGCCAAGGA CAAGCAGGAT     840

GAAATCAAAG GCGCACCGCT TTCTGATAAA GAAAAAGCAG AACTTTTAGC AAGAGTGGAA     900

GCAGAAAAAC AAGCAGCTCT CAAAGAGATT GAAAATGCGA AAACTATGGA AGATGTGAAG     960

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GCTCCTAATG CTGCTCCTAA GACAACAAGT GCACCGCAAG CAACTGCAGG AACAATGCAA    1080

GATGTTACCT ACCAGTCACC TGCTGGCAAA CAATTACCTA ACACAGGTTC AGCATCAAGT    1140

GCAGCACTTG CTAGTCTTGG TCTAGTGGTG GCAACAAGTG GTTTTGCTTT GCTAGGAAGA    1200

AAGACTAGAC GTAGAAAATA GAACAGCTAG AAAATTCTAT TCTCTACTTA AAGTTAGATT    1260

ATAAGGGGGA TTTTGAGAAG TCATCAATCC TAGTGATGGG TGAGAAAAGT GAGAACCCAA    1320

GATAATCACA TACTTTAGCT GAATAGGAAT ATTCTATCAA TGTAGCCAAT CTCTTCTGTC    1380

TCTAACTGTG GAATAGGAGA TGGGCAATAT CGGATAGAAA AGATAGCAGA ATAGCTCTCT    1440
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920

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ATTGAAGAGA GGAGGGGAAA CCGAAAAATT AGGTGCCCCT CCTCTTTTTT GGTATAATAG      1500

AAGATAGAAA ACGAGGTTAG AAGAGATGAT TTTTGATACA CATACACACT TGAATGTAGA      1560

AGAATTTGCA GGTCGTGAGG CAGAAGAAAT TGCCTTGGCT GCTGAGATGG GTGTGACACA      1620

GATGAATATT GTTGGTTTTG ATAAACCGAC GATTGAGCAT GCCTTGGAGT TGGTAGATGA      1680

GTATGAGCAG CTCTATGCGA CTATTGGTTG GCATCCTACA GAAGCTGGTA CTTATACAGA      1740

GGAAGTTGAG GCTTACTTGT TGGATAAGTT AAAACATTCC AAGGTTGTGG CTTTAGGTGA      1800

AATTGGCTTA GATTACCATT GGATGACAGC GCCCAAAGAG GTGCAGGAGC AGGTTTTTCG      1860

CCGTCAGATT CAGCTATCTA AGGACTTGGA TTTGCCTTTT GTTGTCCATA CCCGTGATGC      1920

GCTGGAAGAT ACCTATGAGA TTATCAAGAG TGAGGGCGTT GGTCCTCGTG GTGGTATCAT      1980

GCATTCATTT TCAGGGACGC TTGAGTGGGC AGAGAAGTTT GTGGATCTTG GTATGACCAT      2040

TTCCTTCTCA GGAGTGGTGA CTTTTAAGAA GGCAACTGAC CTCCAAGAAG CAGCTAAAGA      2100

GTTACCTTTG GACAAGATGT TGGTGGAAAC AGATGCGCCT TACTTAGCAC CTGTACCCAA      2160

GCGTGGTCGT GAAAATAAAA CAGCCTATAC TCGCTATGTG GTCGACTTTA TCGCTGACTT      2220

GCGTGGTATG ACGACAGAAG AGCTGGCGGT AGCAACGACT GCAAATGCAG AACGAATTTT      2280

TGGACTGGAC AGCAAGTAAT GAAAGAGAAA ATTTCTCAAG TTATCGTGGT TGAAGGGCGT      2340

GATGATACGG TCAATCTCAA ACGTTATTTC GATGTGGAGA CCTATGAGAC TCGAGGTTCT      2400

GCCATCAATG CTCAGGATAT AGAGCGGATT CAGCGCCTGC ACCAACGTCA TGGAGTCATT      2460

GTCTTTACAG ACCCAGATTT TAATGGGGAA CGGATTCGGC GCATGATCAT GATGGTCATT      2520

CCAACAGTTC AGCATGCCTT TCTCAAGCGA GATGAAGCTG TTCCCAAGTC CAAGACCAAG      2580

GGGCGTTCTC TGGGAATTGA GCATGCCAGC TATGAAGACC TGAAAACGGC TCTAGCTCAA      2640

GTGACAGAAC AATTTGAACA TGAGAGTCAG TTTGACATTA GTCGTAGCGA TTTGATTCGC      2700

CTTGGTTTTC TAGCAGGGGC AGACAGCCGT AAGCGTAGAG AATATCTCGG AGAGACTCTC      2760

CGAATCGGCT ATTCCAACGG CAAGCAACTC CTCAAACGCC TAGAGTTGTT TGGGGTTACT      2820

TTGGCAGAAG TGGAAGAAGC TATGAAATCT TATGAGTAGG AAAGATGTAG CCGTTACAAT      2880

TTTTTAAGTT TCACAGTATT TTTCGAAGCA GGTAGAAGAG GAGGCGTCTG ATGTTAATTG      2940

GTCAAAAAAT TAAAGAGATT CGGATAGAAA AAGGAATTAG TCGTCCAGAT TTTTGTGGAG      3000

ATGAGCAAGA ACTGACAGTT CGTCAACTGT CGCGAATTGA AAGTGGAGCT TCGCAACCGA      3060

GTTTGCCCAA GTTAGACTAT ATTGCTCGCC GGCTAGGAGT TCCAGTTTAT AGCCTTATGC      3120

CGGATTTTTC AGCTCTTCCT TCTGCTTATT TAGAATTGAA ATACCAGATT TTACGTGAAC      3180

CAATCTATGG TAAAGAAGAG GAGTACGATA AGAAGGAAGC GTGTTTGGAA GAGATTTATA      3240
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921

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AAACATACTT TGATAATCTT CCTAAAGAAG AACAATTAGC ATGTGAAGTA TTGCAGGCGT        3300

GTTTGGATAC TTCTAGAACT AGAAGGCCTG AATATGCAGA GTTAATACTT GAGGAACATA        3360

TGCCTCAGAT TATAGAAAAA GAAGCTTATT CAATAAATGA TATGTTGTTG ATTCGTTTGT        3420

TTTTTTATCA AATGCTCATT AGAAAAGATC TTGCCAAATT TATAAATCAA ATCGAAAAGC        3480

TAATGCTCTT TCTTTTGGAA CAGAAGAAGG TAACTCAAAT AGAGAATTAC TTTATAATTA        3540

GAGATACTCT TATTTCAGGA ATGTGTTGTC TTGAAAAGGT AGGAGTAACT GATTGTTTTA        3600

ATGATTATCT ATCGTGTTTA CAAGAAATTA TGGATAAAAC TCAAGATTAT CAAAAGAAAC        3660

CTCTTGTATT TATGTTTTTG TGGAAGCAAG CATTAAGAGA AGAAAGAGAT TTTAGTTTAG        3720

CTGAATCATT TTATCAGTCT TCTAAAACAT TTGCGCAGCT AATTGGAGAT GAATTTCTAG        3780

TAAAGAAATT GACAGAGGAA TGGCAAGAGG ATGTCAAAAA ATATTTATAA ACATAGTGAA        3840

TCAGTGACAA AGATGTCCTT GTCCTCGTAT CAAAACAGTT CTAAAGTTCG TCTTTAGGGA        3900

TGTTTTTTTA GATATAAGCT AAAAATGACA CGAAATGGTT AGATTTTAAG GACATTGATG        3960

TCCG                                                                    3964
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(2) INFORMATION FOR SEQ ID NO: 137:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12666 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 137:

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TGAGACCGTT ATTTGTATTA GGGAAATGGG TATCTATTTT TAATGCTGTG GGGATTTTGA          60

TTGTTTCTAT TATTCAAACC AAAAGCTTGT CAGGTATTGG AGCAGGATTG TTTAATCTAT         120

ATAACATTTC ATCTTATATA GGTGATTTAG TTAGTTTCAC TCGATTGATG GCATTAGGAT         180

TATCTGGAGC AAGTATAGCA TCAGCTTTCA ATTTAATTGT TGGTTTGTTT CCGGGAATAT         240

TGGCTAAACT GACAATTGGA TTAGTATTAT TCATTCTTTT ACATGCGATC AATATTTTTC         300

TATCGTTACT ATCAGGATAT GTTCATGGAG CACGTCTGAT ATTTGTTGAA TTTTTTGGTA         360

AGTTTTATGA GGGTGGAGGA AAACCATTTC AACCTTTGAA GGCTTCTGAG AAATATATTA         420

AGGTTATTAC AAAGAATTAA TGGAGGATAT ATATAATGGA ACATTTAGCA ACTTATTTTT         480

CAACCTATGG AGGAGCTTTC TTCGCTGCAT TGGGAATTGT ATTGGCGGTT GGATTAAGCG         540

GTATGGGGTC TGCTTATGGA GTTGGTAAGG CTGGGCAATC TGCCGCAGCT TTACTGAAAG         600
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922

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AACAGCCTGA AAAGTTTGCC TCAGCTTTGA TATTGCAATT ATTGCCCGGA ACACAAGGAT    660

TATATGGTTT TGTTATTGGA ATTTTAATTT GGTTGCAATT AACTCCAGAA CTTCCTTTAG    720

AAAAAGGCGT TGCTTATTTC TTTGTAGCTC TTCCAATTGC TATTGTAGGA TACTTTTCAG    780

CTAAGCATCA AGGAAATGTA GCAGTAGCGG GAATGCAAAT CTTGGCTAAA AGACCAAAAG    840

AATTCATGAA GGGAGCAATT TTAGCTGCCA TGGTAGAAAC CTATGCAATT CTTGCTTTTG    900

TCGTATCATT CATTTTGACC CTTCGTGTAT AAGAAATAAA TTTGCAATTC AAAGGAGGTG    960

TCTAAATGAG CAATTTAGAA AACTTACGAG AGTCTGTTAT TGAACAAGCT CATGAAAAAG   1020

GGCGTATGAA ATTATTGGAT TCCAAAAAGA AGATTGATGA TGAATTTGAA ATGCAAAGT    1080

CGCTCATTAT AAAGAAAAAA GAAGCTGAAC ATGAACGAAA GTTAAAAGAA TTGCAACAGA   1140

AATATCAAAT AATTTTTCAA CAATTAAAAA ATAAGGAACG CCAATCAACG TTAGTATCAA   1200

AACAGAAAAT ATTAAAAGAA CTTTTTCAAT CTGCTTTACT AGAAATGGAA TCTTGGAGTG   1260

CAGATAAAGA AATGGAGTTC ATCTATCGAA TTCTGGAACG ATATTCACAA CAAGAGGTCA   1320

TAGTAACCTT TGGGGAACGG ACTTTAGCTA AATTCAATTT GGAACAATTA GAGAAATTGA   1380

AATTCTCTTT TCCAAATTAT TTATTTAGTG AACAACCTAT CTCAAATGAA TCAGGCTTAC   1440

TTATTTCAAT AGGTAAAATT GATGATAACT ATTTGTATAA AACATTAATT GGATCGATTT   1500

CTAAGGAAGA AAGTTCAAGT ATCGCAAATC AAATTTTTAT CAATTAAGGA TGAAATTGGT   1560

TAATCCTTCT TAGAAATTTG GAGTATTCCA ATAAAATTAG AAAGGTATTT TATGGATACT   1620

AATCTTTTTT CAAAAATAAA TACGACGATT TCGGTAAAAG AAAACGATTT TATTACAGAA   1680

GAAAAATTTC AAAAAATTAT ACAATCCAAA GATACGGAGA CATTGGCATT TATCTTAGAA   1740

TCAACTCCCT ATCATTTATC GATTGACATC TTAGAAGATC CTAGTCAGAC AGAGATTTCG   1800

CTAATGACAA AATTAGTCAA TGATTATAGA TGGGCCTATG CTGAAAGTCC GTCTGATATA   1860

ATTGTGACTT TATTTGCTTT ACGATATGTT TATCATAATA TCAAAGTTTT ATTAAAATCT   1920

AAGGCGGCAA TTAAGAAAGA TTTTTCTAAA TTATTAATTC CAATAGGGAT TTTTGATATA   1980

GAAAGTTTAA AACATTAGT TTCTTCCTTA CATTCAGATA CACTTCCTGA TTTTATGGTT    2040

CGTGAAGTAG AATCAATTTG GAATGAGTAT GAAACTTTTA ATAATATTCG TGTACTTGAT   2100

GTCGGAGCTG ATCTAGCATA TTTTAAACAT CTGAAACTTT TATCTAATGA GTTAGATGAG   2160

GTACTGTCTC AGGTTATTGT CGAAATGATT GACTTTTATA ATATTATTAC TGTAAAACGT   2220

GGTTTATCTC AAAATAAGAG TCATGGGGAT ATTTTACAAT TACTTTCAGA TGAAGGAAGT   2280

ATTTCTGCTA AAGAATTTAT ATACATTGTA GAAAATCAAG AAATATTTGT GTGGTTCAAT   2340

AAAATAAATC CAAGCTTAGA TTCAATCTTT TCAACTTATG AATTGAAGAT GCAGGACGCA   2400
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923

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ACAATTTCAT CTTCTGAGTT AGAATTTTTA TGTGATTTAC TATTGTATAA AACTTTAGAT    2460
CAAGGAAGGT ACAATGTAGA GGGGCCGTTA GTTCTTGCTA GATATTTATT GGGATGTGAG    2520
TTTGAAGTAA AGAATCTCAG AATGATCATA TCAGCTCTTC AAAATACAAT TCCCTTTGAA    2580
TCAATAAAAG AAAGGATACG CCCACATTAT GGAAGCTAAT AAGTATAAAA TTGGCATAAT    2640
TGGTAGCCGT GATATTATTT TACCATTTAG CATGATTGGG TTTGATATAT TTCCTGCCTA    2700
CCAAGAACAA GAAGCTATAA ATACACTAAG AAAATTAGCT CAATCTGATT ATGGTGTCAT    2760
TTATATCACT GAAGACATTG CTTCAATGAT ATTAGATACA ATTCGCCATT ATGATTCCCA    2820
AGTTGTGCCT GCTATTATTT TATTACCGAC TCATAAACAA GGTTTAAATT TAGGATTAAA    2880
ACGTATAGAG GATAATGTAG AGAAAGCAGT AGGACACAAT ATTTTATAAT AATGTACAAA    2940
ATTGTCTGTA ATATTATTCT ATAATTTTTG GACTTAGTAA GGAGAATAAC TTTGACTCAA    3000
GGGAAGATTA TAAAAGTATC GGGACCTCTA GTTATTGCAT CAGGTATGCA GGAGGCTAAT    3060
ATTCAAGATA TTTGCCGTGT AGGTAAGCTA GGGTTAATCG GTGAAATTAT TGAAATGAGA    3120
AGAGATCAGG CATCTATCCA AGTCTATGAA GAAACATCTG GTCTTGGTCC GGGAGAACCT    3180
GTTGTTACAA CTGGAGAACC TCTCTCGGTT GAATTAGGGC CAGGATTGAT TTCTCAAATG    3240
TTTGATGGCA TACAACGCCC ATTAGATCGA TTTAAATTGG CTACTCATAA TGATTTTCTA    3300
GTTCGTGGGG TAGAAGTTCC AAGTTTGGAT AGAGATATTA AGTGGCATTT TGATTCCACT    3360
ATAGCAATTG GTCAAAAAGT GAGTACGGGT GATATTCTTG GAACTGTCAA GGAAACCGAG    3420
GTAGTTAATC ATAAAATTAT GGTTCCTTAT GGAGTATCTG GAGAAGTCGT TTCTATTGCA    3480
TCTGGCGATT TTACAATTGA TGAAGTTGTA TATGAAATAA AAAAATTGGA CGGTAGTTTC    3540
TATAAAGGAA CGCTTATGCA AAAATGGCCT GTCCGCAAGG CGCGTCCTGT TTCTAAACGT    3600
TTAATTCCAG AAGAACCATT AATCACAGGT CAACGAGTTA TTGATGCATT CTTTCCAGTA    3660
ACCAAAGGGG GAGCTGCAGC AGTTCCTGGA CCGTTTGGAG CAGGAAAGAC AGTTGTACAA    3720
CACCAAGTAG CTAAATTTGC CAATGTTGAT ATTGTTATTT ATGTCGGTTG TGGAGAACGT    3780
GGAAATGAAA TGACGGATGT ACTGAATGAG TTTCCTGAGT TGATTGACCC TAATACCGGA    3840
CAATCAATTA TGCAACGGAC AGTTCTGATT GCTAATACTT CAAATATGCC TGTTGCTGCT    3900
CGTGAGGCTT CAATTTATAC AGGAATTACC ATGGCTGAGT ATTTTCGTGA TATGGGCTAC    3960
TCTGTCGCCA TTATGGCTGA TTCAACTTCA CGTTGGGCAG AAGCGCTACG TGAAATGTCA    4020
GGACGTCTAG AAGAAATGCC TGGTGATGAG GGTTATCCTG CTTATCTGGG AAGTCGTATC    4080
GCTGAATATT ATGAAAGAGC AGGACGTTCT CAGGTTCTAG GGCTTCCAGA ACGTGAAGGA    4140
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924

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ACGATTACTG CTATTGGAGC TGTATCGCCA CCTGGTGGAG ATATTTCAGA ACCAGTTACT     4200

CAAAACACTT TACGGATTGT GAAAGTTTTT TGGGGGCTTG ATGCTCCGTT GGCACAGCGA     4260

CGTCATTTTC CTGCAATTAA CTGGCTTACA TCTTATTCAC TATATAAAGA CAGTGTGGGC     4320

ACTTATATAG ATGGTAAAGA GAAGACAGAT TGGAATAGTA AAATAACTCG TGCGATGAAC     4380

TACTTACAAC GGGAATCTAG TTTAGAGGAA ATTGTTCGTC TTGTTGGAAT TGATTCTCTG     4440

TCTGATAATG AACGACTAAC GATGGAAATT GCTAAACAAA TTCGAGAAGA TTATTTGCAA     4500

CAGAACGCTT TTGATTCGGT AGATACATTC ACTTCGTTTG CAAAACAAGA AGCAATGCTA     4560

AGTAATATTC TCACTTTTGC TGATCAGGCA AATCATGCTT TAGAGTTGGG TTCTTACTTT     4620

ACAGAGATTA TGGAAGGTAC CGTGGCAGTT CGAGACCGTA TGGCGAGAAG TAAATATGTT     4680

TCAGAAGATA GATTAGATGA AATCAAAATT ATATCAAATG AGATTACACA TCAAATTCAT     4740

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GATATTGATG GTCAAGCTAT TAATCCTGTA TCTAGAGATT ATCCAGATGA ATTTATTCAG     5160

ACAGGGATCT CCTCTATTGA TCATTTGAAT ACTCTTGTAC GTGGTCAAAA ATTACCAGTA     5220

TTTTCAGGTT CGGGCTTACC TCATAATGAA TTAGCTGCTC AGATAGCAAG ACAAGCGACT     5280

GTTTTAAATT CTGATGAAAA TTTTGCGGTT GTATTTGCAG CAATGGGTAT TACTTTTGAA     5340

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TTTATGAACT TGGCAAATGA TCCTGCAATT GAGCGTATTG CAACTCCCCG CATTGCTTTA     5460

ACTGCGGCAG AGTATCTAGC TTTTGAAAAA GATATGCACG TTCTAGTTAT CATGACGGAT     5520

ATGACTAACT ATTGTGAAGC GTTACGTGAA GTCTCGGCAG CTCGCCGTGA AGTTCCAGGG     5580

AGACGAGGCT ATCCGGGATA TTTATATACA AATTTATCAA CTCTATACGA AAGGGCTGGT     5640

CGCTTAGTTG GTAAAAAAGG TTCGGTGACA CAGATTCCTA TTTTAACAAT GCCAGAAGAT     5700

GACATAACAC ATCCAATTCC TGATTTAACT GGATACATTA CTGAAGGGCA AATTATTTTG     5760

TCGCATGAGT TGTATAATCA AGGTTATCGT CCACCAATCA ATGTTTTACC TTCTCTCTCT     5820

CGATTAAAAG ATAAGGGATC TGGAGAAGGT AAAACTCGTG GAGATCATGC TCCAACTATG     5880

AATCAACTGT TTGCAGCCTA TGCCCAAGGG AAAAAGGTTG AAGAGTTAGC AGTAGTATTA     5940
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925

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GGAGAATCGG CTTTATCTGA TGTAGATAAA TTGTATGTGA GGTTTACAAA GCGTTTTGAA    6000

GAAGAGTACA TAAACCAAGG ATTTTATAAA AATCGAAATA TAGAAGATAC GTTGAATCTT    6060

GGGTGGGAAT TACTATCAAT TCTTCCTAGA ACAGAGTTAA AACGTATCAA AGATGATTTG    6120

CTTGATAAAT ACTTACCTTT GGTAGAAGTT TAATCCGGAA ATGGAGTGAT TATCTATGGT    6180

ACGTTTGAAT GTAAAACCAA CTCGTATGGA ATTGAATAAC TTAAAGGAAC GTTTGACAAC    6240

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TATACTATTA GTAAAGTAAA ACTATTGGAG GATATTTTAA TGCCACAACC TATTGTTCCT    7080

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AACCCACTTT GAATTGGATC CTTTCTCCGG TCAAGTCTTT CTCTTTTGTG GTGGACGTAA    7380

AGACCGCTTT AAAGTCCTTT ACTGGGATGG TCAAGGATTT TGGCTACTAT ATAAACGCTT    7440

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ACAAGTAGAC TGGCTTATGA AGGGCTTTTC TATCACTCCA AAAATATAGT AGATTGAAAC    7560

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ATTTGTCCTG TTCTTATTTC ATTTTACTAT AAATCCATCA GAAAGTCGTG ATTTCTATTG    7680
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926

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TTAACGATGG ACTTTATCAC CTCCTTCTCC AGTCCTTGTA TAACATCTTG GAGTTGATTC    7800

ATGACATCTT CCAAAGTTTA AAAGGCTTTA TTCTTAAATC CACGTTTACG AATCTCTTTC    7860

CACACTTGTT CAATGGGGTT CATCTCTGGT GTGTATGGAG GAATAAATGC AAAGCCAATA    7920

TTAGTCGGAA TCTTTAAGGT ACTTGATTTA TGCCATATAG CATTGTCCAT AACGAGTAAA    7980

AGATAATCAT CTGGATAAGC TTGTGAAATC TCCTATTCCT AAAGCCCCTT TAGCGCATAA    8040

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ACGTCATCAA TTAAATAGCG AGAAATATCT ATCCTATCTT CTAGAATGTC TTCCAAACGA    9120

GGAAACTCTC GTAAACAAAG AGGTTTTAGA GGCTTATTTA CCATGGACTA AAGTTGTACA    9180

AGAAAAGTGC AAATAAGAAA TCTCCAGATT AGGAACTATC CGTGAGTTCT CCAGTCTGGA    9240

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GCAAGTAAAC AACTAACCGA TGCACGATTT AAGCGTCTTG TTGGTGTTCA ACGCACGACT    9360

TTTGAAGAGA TGTTAGCTGT ATTAAAAACA GCTTATCAAC TTAAACACGC AAAAGGTGGA    9420

CGAAAACCTA AATTAAGTCT AGAAGACCTT CTTATGGCCA CTCTTCAATA TGTGCGAGAA    9480
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927

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CGGAGCCAAT GGGTTGAAGT AACTCTTGTT CAAAGTGGTG TTACGATTTC AAGAACTCCT      9600

CTCAGTTCTG AGGACACGGT AATGATTGAT GCGACGGAAG TAAAAATCAA TCGCCCTAAA      9660

AAAAGAATTA GCGAATTATT CTGGTAAAAA GAAATTTCAC GCTATGAAGG CTCAAGCGAT      9720

TGTCACAAGT CAAGGGAGAA TTGTTTCTTT GGATATCACT GTGAACTATT GTCATGATAT      9780

GAAGTTGTTC AAAATGAGTC GCAGAAATAT CAGACAAGCT GGTAAAATCT TGGCTGACAG      9840

TGGTTATCAA GGGCTCATGA AGATATATCC TCAAGCACAA ACTTCACGTA AATCCAGCAA      9900

ACTCAAACCG CTAACAATTG AAGATAAAGT CTATAACCAT GCGCTATCTA AGGAGAGAAG      9960

CAAGGTTGAG AACATCTTTG CCAAAGTAAA AACGTTTAAA ATGATTTCAA CAACCTATCG     10020

AAATCATCTA AACGCTTCGG ATTACGAATG AATTTGATTG CTGGTATTAT CAATCATGAA     10080

CTAGGATTCT AGTTTTGCAG GAAGTCTATT ATCAAAAATA CCATCAAGAT TATATAAGAT     10140

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TAATCCTAGT ATTGTAATTT TAGATGAAGC AACTAGTGCA TTAGACACTA TTAATGAGGA     10500

AAGAATAACA AAGTATATAC AAAGTCAGGG CTGTACTCAA ATAATTGTAG CTCATAGATT     10560

GTCAACGATT AAGGATGCGG ATGTTATTTT TGTAATGAAA GGTGGTAAGA TTGTTGAGTC     10620

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TATAAATCTA ACAAAAAGCT TTAAAGATAT TGAAGTTATT CATAACACTT AAATAATAGA     10980

GCAACTACAG TAGTAGCTTA AAAACATGAT TAAATCGCTA TTCTTAGGAG TAGCGGTTTT     11040

TCTTTTTGTT TAATACTCTT TGAAAATCTC TTCAAACCAC GTCAGCTTTG CTTTACCGTA     11100

CTCAAGTACA GCCTGCGGCT CGCTTCCTAG TTTGCTCTTT GATTTTCATT GAGTATAAAA     11160

AGGGTCAAGT AAGTATAGTA AATTGAAATA AGATATGAAC AAATCGATTA GAAAAGTCAA     11220
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928

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ATTAATTTCT AGAAATATGT TAGAAATTGG TTTGAATTCC GCAATCAATT TGTTCAGTTT    11280

TTATTTCATT TCATTTTATT TAATTAGATT TTCCAATTTT TTAATTCAAG CTAAAAATCC    11340

CCAATCGTAG TGATTGAGGA TTGAGTAAAT AAATCTTAAA CAATACCTTG TGCAATCATG    11400

GCATTTGCTA CATTTTCAAA GGCAGCAATG TTAGCTCCTG CAAGGTAGTC TTTATCAAGA    11460

CCGTATGTTT CTGAAGTCGT TTTAGCTGTG TTGAAGATGT TTGTCATGAT GTCTTTGAGA    11520

CGGCCATCAA CTTCTTCACG AGTCCATGAG AGGCGAAGAC TGTTTTGGCT CATTTCAAGA    11580

GCTGAAACGG CTACACCACC AGCGTTGGCA GCTTTTGCAG GTCCGTAGAA GATACCATTT    11640

TCTTTGTAAA CTTTGATGGC ATCAAGGTCG CTCGGCATGT TGGCACCTTC AGATACACAG    11700

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CATGGAAGAG CAATGTCATA GTTTCCAGCG TAAGTCCATA CAGTACCTTC GTGGTAGGTT    11820

GCAGTTGCTT TTTCAGCTGC ATACTCAGTC AAACGAGCAC GACGTTTTTC TTTAACATCA    11880

ACCAAAAGAT CGAAGTCGAT ACCATTTTCA TCGATGACAT AACCATTTGA GTCAGAAACA    11940

GAAATAACAG TTGCACCGAG TTCAGTTGCT TTTTGAAGAG CATATTGAGC AACGTTACCA    12000

GAACCTGAAA TAACGACTTT CTTACCAGCA AAGCTGTTAC CGTTAGCTTT GAGCATTTCT    12060

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CCAAGAGGTT TACCAGTCAA GACACCAGCA TCAAATTGGT TAAGACGTTT GTATTGACCG    12180

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GGTCCGATGT GTTTTTGCAA TTCAGTCATG AAGCTTTGGC AGAAGCGCAT CACTTCAGCA    12300

TCTGTTTTAC CTTTAGGATC GAAGTCTGAT CCACCTTTAC CTCCACCGAT AGGAAGTCCA    12360

GTCAAGACAT TTTTAAAGAT TTGTTCAAAT CCGAGGAATT TCAAGATCCC TTGGTTTACA    12420

GTTGGGTGGA AACGAAGTCC ACCTTTGTAT GGTCCAACAG CTGAGTTGAA TTGAACACGG    12480

TAACCACGGT TTACTTGAAT TTTTCCATCA CGGTCAACCC AAGGAACACG GAAAGAAACC    12540

ACGCGCTCAG GCTCAGTAAT ACGTGCCAAG ATATTTTCTT CGATATACTC AGGGTGTTTT    12600

TCAAATACAG GTTCTAAAGT GTTGAAAAAT TCTTCAACAG CTTGGAGGAA TTCAGCCTCG    12660

TGCCGG                                                              12666
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(2) INFORMATION FOR SEQ ID NO: 138:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3083 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

929

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 138:

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AGCAACTGTT GTGAACCAAT TCCGATAAAT TCCAAGAATT GGTTAATAGA GCCATTTTGA        60

CCAAAAATCC CGATAAAAGC ATAGGCTTTA AGGAGCAAAT TGATCCAGGT AGGAAGGATA       120

ATCAGCATGA GCCAGAGTTG ACGGTGTTTG AGACGGGTCA AAAAGAGGGC CGTCGGATAA       180

CTGATAAGCA GTGCCACAAA GGTCACAATG CCTGCATAAA GCACTGAGTT GAAACTCATT       240

TTAAGATAGG TCAAGTTTTG TGACGCAAAG TAAGATTTGT AATTTTCTAA ACTGAACTGG       300

CCTTCGATGT TGAAAAAGGA TTGACCGAAA ATCAAGACCA AGGGTGCCAA TACAAAGAGC       360

GCAATCCAAA GCATGTAGGG TACTACAAAG AGTTTAGAGC TTGTTTTCTT CATCTCTTTC       420

CTCCTCGATT GCATTGATCA AACCTGCTTC TTGCTCTTCG ATTTCTACGT ACTCCTCAAT       480

ACGAGCATCG AACTCTTCTT CGGTTTCATT GAGACGCATG ATGTGGATGT CTTCTGGTTC       540

AAAGTCCAGA CCGATTTCCT CACCCACGAT AGCCTTACGG GTTGAGTGGA TCATCCATTC       600

ATTTCCAAGT TCGTCATAGG CGATAATTTC ATAATGAACT CCACGGAAAA GCTGGGTATC       660

GACCTTAACT TGGAGCTTGC CTTCTTCAGG AAGGGTAATG CGCAAGTCCT CTGGACGAAT       720

AACGACCTCA ACAGGTTCAT TTGGCTTCAT CCCACCATCA ACCGCTTCAA AGCGTTTGCC       780

GTTAAATTCG ACCAAGTAGT CCTCAATCAT GGTACCTGGC AAGATGTTTG ACTCCCCGAT       840

AAAGGTGGCA ACAAAGTGGT TGATTGGCTC ATCGTAGATG TCCACAGGGG TTCCAGACTG       900

GACAATCTCG CCATCATTCA TAACGAAAAT CCAGTCACTC ATGGCAAGAG CTTCTTCCTG       960

ATCGTGAGTG ACAAAGACAA AGGTAATGCC CAATCGTTGT TGTAATTCAC GCAATTCGTA      1020

CTGCATGTCT GTTCTCAATT TCAAGTCCAG CGCTGATAAA GGCTCGTCCA ACAAGACCAC      1080

ACGGGGTTGG TTGATGATAG CACGGGCGAT GGCCACACGC TGACGTTGTC CTCCAGAAAG      1140

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GTTGGTTGGA ATATCATTGA TACGAACACC GTCTAGCATG ATATCTCCTG TCGTCGCATC      1380

CAGTAAACCT GCAATAATGT TTAGGATAGT TGATTTCCCC GAACCAGATG CACCTAGAAG      1440

GGTGTAGAAT TTCCCTTCTT CCAACTCAAA GTTGATGTCT TTGAGAACCT TGGTGTTGCT      1500

GTCTTCAAAA ACTTTAGAGA CGTTTTTGAA TTCGATAATT GGCTTTTTCA ATTGGCATAA      1560

ATTCCTTCTT TTTCATAGAT TAACCGATCG GGGCTCTGTC AGGTCCCCAC TACCTCTTGC      1620

AGGGAGTAAA ACCACCTGCA TACATCTTCG CTACCGATAG GCTTTCACCC AAGATCCGGA      1680
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930

CTTCTCTTTC AAGCGTAATA CCTGAGTGTT CCTTGACTTT TTCGATAACC GATTGGATCA   1740

AGTCCTCGTA GTCTTTGGCC GTTCCATCTG CGACATTGAT CATAAATCCT GCATGCTTTT   1800

CTGACACTTC TACGCCACCG ATACGATAGC CTTTCAAGCC AGCTTCTGAA ATTAACTGAC   1860

CTGCAAAATG CCCGACTGGA CGCTTAAAGA CCGAGCCACA AGATGGGTAT TCCAAAGGTT   1920

GCTTGAGTTC ACGTAGGTGC GTCAAGCGGT CCATTTCCTG CTTGATAACC TGATGGGTTC   1980

CTGGAGCTAG GGCAAATTTA ACTGACAAGA CAACTGCACC AGACTCCTGA ATAGCTGAAT   2040

GACGGTAACC AAAAGCCAAG TCTTTAGCAG ACAGGGTTTC GATTTCTCCA TCCTTGGTCA   2100

AGACCTTACA AGACTGCAAG ATGTGAGCAA TCTCGCCACC ATAGGCACCC GCATTCATAA   2160

AGACAGCACC GCCAACGCTT CCTGGAATAC CACAAGCAAA CTCAAAGCCA GTTAAACTAT   2220

GACGGAGGGC AATGCGAGTT GTTTCAATCA AGTTAGCCCC AGCTTCTGCT TCAATGGTAT   2280

AGCCATCAAC AGAAACGTTA TTGAGCTTGT CACACAAGAT GACAAATCCA CGAATCCCAC   2340

CATCACGAAC GATGATATTG CTTGCATTGC CAAGAACCAT CCAAGGGATA TTTTCTTGGT   2400

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GTAATTGGAA ACCAAGCGCC AAGATTCGCT CAAAACCAAG CAAATAAATC TGCCAGACCG   2940

AAAGTGACTG AATGGTTTTT AACATATTTT CAGACAGTAA TTGCATAACC TGTGGATTCT   3000

GAGTTTGAAC TGCCGAAAGA ACAATGTAAA GATTGAGTAA ACTAGTAAGG CCTAGAAAAA   3060

TCAACTCCAA GCCACCATGC CCC   3083

(2) INFORMATION FOR SEQ ID NO: 139:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15363 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 139:

931

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CCGGAGGATA TTGACCACCA CCAAAAGCAG GGGGAAAATC GAAATCAACC AATAGTAGGC     60

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TAAAGGTTTG TCTATCAGCT CTTTCCACCA CTTTTTCATG TCATACTCCT TCACTTATAA    180

TCTTATACTC AATGAAAATC AAAGAGCAAA CTAGAAAGCT AGCCGCAAGC TGCTCAAAAC    240

ACTGTTTTGA GGTTGTAGAT AAGACTGACG AAGTCGATCA CATACATACG GTAAGGCGAC    300

GCTGACGTGG TTTGAAGAGA TTTTCGAAGA GTATTAACTA ATTTCTTCTT ACCAATTCCA    360

CCATATCATA CGGTAGGGTA TTGGCAGCTT CCTTCAAGGA ATAGTTCTCT AAGTTATTTA    420

CATTTTGTCG TAATTTCTTG GCATACTTAG TCGTAATCAA TCGTTTTTCT TCGTATTCGA    480

AAATCAACTT GCGCTCCAGA TAATAGCCTC TCAGCATTTC ATCGATATTG TTGGGTTTGA    540

CACGATTGAT AACCCGTTCG ACAAAGGCAC CACTGCTGAT AATAGCTGTT TCTCGAAGAC    600

GAGACTCCTG CATAAAACTA ATCAAAGAGC GTCTGTAGAC TCCCTTCAGG TTTTCCAAAC    660

TTTCAATAAT CATCTCTGTA TTGGCAAGAT AGAGCTCTGC AATTTGGTCA TAATCAAGAG    720

CACGGAGACG GCTTTGCTCC TTGTTCTTCC AGCTACGGAA GGTCTTTCCG AGAGTAAAAA    780

CTTCATGAAG GAGAAAACGT AAAATCCTCA AGGAAACAAG AAAATAATAG GTCAGTCTTG    840

AGGCAAGTTT ACGATTGATT CCTTGTTCTA TATTTTTCAG ATAACGTTGG TAAACTCGGT    900

AAGCACGATT GCTAATGTTC CCCTCTTCAT AGGCCTGTTC CAAACCATCA CTTTCAATAC    960

TAAGAATCAA GAGTTTCAAA GCAGCCCAGT CTTCTTGATC ATCCTGGTTT TCTTGGCTTA   1020

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TCTTGAAGCG ACTTGCCTTT AAAATTCCAG CAACTACGAC GGCAATAATA CCTGAAACAT   1680

GAACTTCTTC TGCCAGAAAG AAGGTCACTA GAGGCAAACT CAATTCTAAT AAAAGTTCAC   1740
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932

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GCCCCAGAGA AAAAGCTCCA GTTGTCCAAG CTGTCAAAGC TACCTGAAAA GCCACCAAAC    1920

CAGAAGCATC ATTCAAGAGT CCTTCGCCCT TAAGAATATT GGACACGCGC TTAGGAAAGC    1980

TAAAACGCTC CGAAAGAGAG GCAAAGGCCA CCAAGTCCGT AGGACCAAGG GCTGCCCCAA    2040

CAGCCAAGCA AGCTGCCAAG GGAAGGCTGA ACCAAAGAAG ATGGGCCAAG CCACCCAAAC    2100

TCAGGGTCGA GATAAAAATC ACTGGAAATA TGAGATAAAC AATGATTCGC CAGTGTTTTA    2160

AAATAGCCGT AACATCTGCT TCTTCAGCCT CTCGGAAAAG CAAGGGTCCG ATAACCAGTG    2220

CCAAAAACAA CTCCGTATTA AGGTGAAAGT CAGTATTGGG TAAAAAGAGA CCAATCACAA    2280

TTCCCAAAAG AATTTGCACC AAAGGGAGAG GCAAAAAGGG CAGGAGCTTA TTGGTTGTAC    2340

TTGAGACAAT CAAAACCAGT AAAAATAGGA TGAGGTAAAT CAGTAATTCC ACGCACGTCC    2400

TCCTTAATCT TTTTTACAAC AGGATTCAAA TATCTCCTTC TGCTCTTTGA TTTTTTGGTC    2460

AATCTTGGAA CAGTCTTTGT GCTCAATTTT TCTCTGGCAC CGTTCCATTT CAAGAGCAAC    2520

TAATTTTTTC TTGATTTTAA GCATTTTTTT GCTCATATGC GCTTGGTCTA GCACGCCCAT    2580

CGCTCGTTCG TGGTGGGTTG ATTCAACAAA ATTCTGGCGC ATGGCATCCA GCTTTTCGTG    2640

TAAGTATTGT TTATCCATGT CTGTATCTCT CTAATTTTTC AATCATCACT AAAAACGGCG    2700

GGTTGTTGAC TTGGTTTAAA GTTCGGTAAA TGGCAGCTGT GTACTCTTGT TGGTTCAACT    2760

GGATCACAAA ATCCAAGACA GCATCTCTCT CGAGATCGCC TCCTTCATGA CCATAGTAAA    2820

TCATAATAGC AATTCGTCCA CCTTTGACAA GTAAGCCACA TAGCTTTTCT AATGCCTCAA    2880

TCGTTGTCTG CGGTCGGGTG ATGACAGACT TATCAGCTGC CGGCAAATAG CCCAGATTAA    2940

AAATCCCTGC CTTAGCTTTT ATCACAAACT GGTCCAGTGT CTCATGGCCT TGCAAGATTA    3000

ACTGGGCATT TGTCAAGTCA GCCTGATGCA AACGCTCTTG GGTCTTTTCC AAGGCTTGCT    3060

TCTGAATATC AAAGGCATAG ACTTGCTTGG CTAGCTTGGC TAAAAAAAGC GTGTCATGAC    3120

CATTTCCCAT AGTCGCATCC ACTACGACAT CCTCTTTTGT CACGACCTCA GCCAAAAAAT    3180

CATGTGCCAT CTCAAGTGGT CTTTTCATTT TCAAACTCCT GTTTTACAGC CTTGCATCCT    3240

TGAACACTTC CACGACGTCG CATCTCCATC TCAATGCTGT TGAGGACTTC CCATTTATTG    3300

AGGCTCCACA TAGGACCAAG CAGCATATCC CTAGGCGCAT CTCCTGTAAT TCGATGGATG    3360

ACGATATGTT TGGGAATAAT TTCCAGTTGG TCACAGATGA CCCTGACATA TTCGTCCTGA    3420

CTCATCAATT GTAAACGCCC CTCATGGTAA TCTCGTTGCA TACGAGTATT TGTCATAAGA    3480

TGGAGCAAAT GCAGTTTAAT CCCTTGAATA TCGTTATCCG TGACACAACG GCGGACATTT    3540
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933

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TCAACCATCA TCTCATGGGT TTCACCAGGC AAACCATTGA TCAAATGGGA AACAATCTCA      3600

ATTTTTGGAT ACTTTCTCAA ACGCTTGACC GTTTCCACCT ACAATTCATA AGAATGCGCA      3660

CGGTTAATCA GGTCAGAGGT TGCTTCATAA GTAGTTTGCA AGCCCAATTC AACCGTCACA      3720

TGCATGCACT CCGATAACTC AGCCAAATAT TCGATGGTTT CGTCTGGTAA ACAGTCTGGG      3780

CGCGTTCCAA TATTGATTCC TACCACACCT GGCTCATTGA TAGCCTGTTC ATAACGCTCT      3840

CGAATAACTT CCACCTTTTC ATGGGTGTTG GTAAAATTTT GAAAATAAAC CAGATACTTC      3900

CGAACATCCG GCCACTTGCG GTGCATAAAG TCAATTTCCT TATAAAATTG CTCACGGATA      3960

GGCGCATCCG GTGCCACAAT GGCATCTCCA GAACCAGAAA CCGTACAAAA AGTACAGCCC      4020

CCATGAGCCA CAGTCCCATC ACGATTGGGA CAATCAAATC CCGCATCAAT AGGGACTTTA      4080

AAAGTCTTTT CTCCAAAGAG TTTTCGATAA TAATCATTCA AGGTATTATA AGATTTCATG      4140

ACTTTCATTA TAACAAAAAT CACCCACAAT CTCAAAAGCC TGACTTTCCT ATAAATTCCT      4200

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TTTTTGGATG GTTACGATAG TCTTGGTAAA ATAGAATTGC CCAATAAACC ATTTAGAAAG      4800

GCTATCCCAT GCATATTCAC TATAACACAA ATCAAACAAC TTTACCACTA GAAATCAGTT      4860

CCTTCTTACC ACAAGATCAT CTCGTTTTTA CTATTGAAAA AGTGGTGAAT ACCTTGGAGG      4920

AACGTCACTT CTACACCTCC TATCATGCCT TTGATCGCCC GTCTTATCAC CCTAAAATGC      4980

TTGTATCTAC TCTTCTATTT GCCTATTCAC AAGGGATTTT CTCTGGTCGA AAAATTGAAA      5040

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TGCCAACAAG TATAGTTTTG TGTGGAAGAA AACGACAGAG AAATTCTCCG CCAAACTTCA      5160

AGAACAGATA CAGGTCTATT TTCAAGAAGA AATCACTCCC CTTCTGATTA AATATGCCAT      5220

GTTTGATAAG AAACAAAAGA GAGGGTATAA AGAGTCAGCT AAAAACTTAG CGAATTGGCA      5280
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934

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TACCAAATAT CAGAAAACAC AGACAGACTT TCAACAAGAA ATCAAGGTTT ACTACGCCGA    5400

CGAACCTGAA TCAGCCCCTC AAAAGGGACT GTATATGAAC GAACGCTATC AAAACTTGAA    5460

AGCTAAAGAA TGTCAGGCGC TTTTATCTCC CCAAGGTAGA CAGATTTTCG CTCAACGCAA    5520

GATTGATGTG GAACCTGTCT TTGGGCAGAT AAAGGCTTCT TTGGGTTACA AGAGATGTAA    5580

TCTGAGAGGG AAGCGTCAAG TGAGAATTGA CATGGGATTG GTACTTATGG CCAATAACCT    5640

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GACCAGTTTG TCCAACGACG ATTTTCTGAA TGATCTCCGT CATTGAGATA GTCAACGCGG    7080
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935

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TCAGCAACAA GGTTACTACC AAGGACACGG CCTCGAACAG TAAATTGACC TGCTTTTGTC    7260

AGATTTTCCG CTGGAACTTC TTCCCATTCA ACTGTCAGGT CTTTTGTTTC GTAGCCGTCT    7320

TTACCTGTGA AGTAAACTGG AACCTTAGTC GGCAATTCAA GTGCTTGACC TACTTGTAGC    7380

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TTATGCAACT CAAGCATTCC TTTACGAATT GCGACTTCCC CTTCACCACT TGTAGAGAAG    8820
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936

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GCAATTTTTG GCGCTTCTTC AAGGAATTGA ATTGCATAGG TTTGAAGAGG GCCACCATCT      9000

TTAGGCTGAA TAAAGATGCT CGCACGCATG CCGTTTGCTG CGCTTGCTTG AAGAACTGTA      9060

ACAGCTGCAT TTTTAGCACT TGCTGTGACT TCTGGCAACT TAGCTCCATA AGCAAGAGTG      9120

CGGTATTGCA TTGGTTTTTG ACTAGTAAGA CCTGTTACTG CCTCACCACC AACCGTTACA      9180

GTTGGTACTG CAGGTGCCGC AGGATTGCCT TCTTCTACCA CAAGGGTTGC ATGAATTGGT      9240

TGACCTTCTA AATAACCGGT CGCTTGAATA CGAGAACCTG GAATTGCTAA CTTAGCTTTA      9300

TCTTCTTCGG CAATCTCCCA CTTGTCCACT TCATACTCTT CAACACTTCC ATCAATCAAA      9360

ACATAGGAAA CAGATTTGTC TACAGAATTC AAGTCAGTAT TTGGAGCAAT ACGTTTCACA      9420

ACTGGTAGCT CTGATTTAAG AGCAATCACT TCTACACGAG CTTCTACTTC TCGTCCGTCA      9480

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GGACGTTCTG CACGGCTACC ATCACTGTAT ACAAACGGAA CAGTGGTAGG CATTTCAGGT      9600

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TCATGTTTTG GAATGCCGGC TGTATCTACG ATACCAAAGT AAGAGCTCTT AACAGGAGTT     10440

TGATTTTGGT TGTGCCATGG TGTAGGTTCA CCAATATAGT CCGTACCTGT CCAGATAAAC     10500

TGTCCAGCAT AGCCAGCGTT GTCACGGTCA AAAGTCCATG AAGCGGTTGC TGTTTTCCCC     10560

CAACCCACAC GATCATTTCC ATAATCTGAC TGTTCATAAT TACGCTCAGG TCCATTGCTA     10620
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937

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TGTTTCAATT CACGTTCAGG GCGATAGTAA CTTCCACGTG TACGGGTAGC TGAAGATGTT    10680

TCTGATCCAT AAATCAACCA TTTTGGATGC TTAGCTCTAA GGGCTTTGTA ATTATCTTCA    10740

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TTTGGAGTTA CGGCTTCATC TTCTTTCTTC TCAGATGCAA TAGCCTCAGT TGAACTAGGT    12360
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938

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TCACTTTGTT CTGTCCTTTC AACTATATTT TTAGTTTCCA AAGCTTTATC AGCCTTTTCT    12420

TCTACTATCA TTTTTTCCTC TTTAGGTTTC TCAGCAGTAT GAGTAATAAG TGTTTCATCC    12480

GCATAAACTA CAGATTCTCC AGCTATATTT CCTCCTAATA AAACTGCACA AGTCCCAATC    12540

ATTACTGAGC AAGCTCCCAC AGCAAACTTA CGAATGCTAT AAACTCTTTT CCGATTCCAA    12600

TGGCCTTTCC CCATAAAACC CTCCTTATAT TATATTTAGT GCAGTTAGCT ACTACCAAAG    12660

CCCAAGTGGT ATACATGGTA TGACAACCTA GTTTCAACAA TTTACACTCT GCGAAAATCC    12720

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GTTATCAGCA TACCATTTAA TCAAGAGACC TGTGATAGAC AAGTGCCAGA TATCAAAGAT    14100

ATCGACATCA AGTGTATCTG TTTTCTTCAT AGCTAGCATC ACTATGTTGA CAATCAACAT    14160
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939

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GATGAGCAAG AAGTATAGTG TCCAAGCAGA ACCCCAAGTG ATTGTAGCAA GTGGTGCCCA    14220

ACCAACGTCG GTAATACTCA ATTGGATACC AGTGTTTTCA ACGAATTTTG CTAGTGATGC    14280

TGAGAAAGCA GTGTTTAGCA TACCGATGAT AGCACCGATA CCTGTAAGAG CGATGGCAAG    14340

TTTGATACCA CCTTCAAGCG CTTTGGAGAA TTTCACTCCA AAAAGTAAAG CCAATACTGT    14400

CAAAATGATT AACATGATGA CAGGTCCACC CATTTCTAAG ATGGGATTGA AAACCTTTCC    14460

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ATGAACAATA TCTGTGTGAG GAATCGCTAC ATTTGGCAAG TCCTTTCCTA GAAATTCCAT    15180

ATCTAAACCA GTTGGAAATG ACTTTTCACG CGTGATCAAG GCTTCACGAT AAGTTGGAGT    15240

GACAATTTCT CGTTCTTCCA ATAAAGTTGC AACCTGATCA AAGAGTTGTT CTTGACTATC    15300

CGCTTCTAAG CAAAACACAA GGTTTTTGTC AAAGAAATAA TCTAATACCA TAAGTTTTTC    15360

CGG                                                                 15363
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(2) INFORMATION FOR SEQ ID NO: 140:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 28882 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 140:

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TAAGACTATT TAATAGTGGA GTGAAATAGG ATACGAACAA ATTGATTAGG AAAATCAAAT    60

GAATTTATAG AAATCTTTTA GCAGTTATGT TATCCTATTC TAGTTTCAAA ACGCTATAGA    120
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                                        940
AGCAGCATTG TGCTAGTCkA GATTCAGTTT ACTATACTAA AACGAGTAGC TTGAAATCAA      180

AAAACCCACC CTCACAGGCA GGTTTTATCT GTATTATTCA GCTAGATTAT GCTTTACCTT      240

CTGAACCGAA TACGTCGATA CGTTCTTCAA CCGATGCTTG GATAGCTTTT ACACCGTCAG      300

CCAAGAATTT ACGTGGGTCG AAGAGTTTTT TCTTGTCGTA TTCTGCTTCG TTTGCTTCGT      360

AGTCACGAGC AAATTTACGA GTTGCGTTAG CGAATGCGAT TTGGCATTCT GTGTTAACGT      420

TAACTTTGGC AACACCAAGT TTGATAGCTG CTTGGATTTG CTCATCAGGA ATACCTGATC      480

CACCGTGCAA TACGATTGGG AATCCTGGAA GAGCTTCTGT CAATTTTTGC AAGTGGTCAA      540

GGTCAAGACC TTCCCAGTTT ACTGGGTAAG GACCGTGGAT GTTACCGATA CCAGCTGCCA      600

AGAAGTCGAT ACCAGTTTCA ACCATTGCTT TAGCGTCTTC GATTGGAGCC AATTCACCTT      660

TACCGATGAT TCCATCTTCT TCACCACCGA TAGTACCAAC TTCAGCTTCT ACTGAGATAC      720

CTTTAGCGTG TGCTTTTTCA ACAACTTCTT TAGCCAATTT AAGGTTTTCT TCAACTGGAA      780

GGTGTGAACC GTCAAACATG ATTGAAGTAT AACCAACTTC GATACACTCA AGTGCATCTT      840

CGTAGTGACC GTGGTCAAGG TGGATAGCTA CTGGTACAGT GATACCCATT GATTCAACAA      900

GGTTAGCGAT CAAGTTGCGA GCAACTTTGT AACCACCCAT GTATTTAGCA GCACCCATTG      960

AAGTTTGGAT CAAAACTGGA GCTTTTTTAG CTTCTGCTGC GCGCAAGATA GCTTGAGTCC     1020

ACTCAAGGTT GTTTGTGTTA AATCCACCAA CTGCATAACC GTTGTCACGG GCTGCTTGGA     1080

CAAATTTTTC TGCTGAAACG ATTGCCATTT TATCAGGCCT CCTGTATATT TTTATGGGTC     1140

ATCCCATTTA CATTGTTCAT TTTATCACTT TTTGCCAAAA AAATCTAGTT TTTCCCGCAG     1200

TTTCGATTGA TTTTCTTCTA ACTCCATCTA TGTAAACCCT TTCTCTCCCT AGTCTTGGAC     1260

GACTTTTGGA AAATCTATAA AGAAGGTTAA ACTATTCTCC TCCATCTCGA AACGATAAGC     1320

TAATTTTTCA TGTTCTAATA GACTCTTAAC CACAAAGAGC CCCATACCAG ACCCCTTGAC     1380

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GCTATTTTCG ATAAAAAGTT CTCCTTCTCT TTCTCCAATT CGAACTAAGC CACCTGGAAC     1500

AGAGTGCTTA ATGGCATTGC TGATGAGATT AGAAAGAATC AACTTCATAA CTGATGGGTT     1560

TAGATAAGCC TGCTGATGGG TCAAACTATT GTCTATCTGG AGCTCTCTTT CCTTGGCTAG     1620

CAAGGCATAA TCTTTGACCA GATTTTGCGT CATCTGGAGG AGGTCAATTG TTTCCCTATC     1680

ATCTCGCAAT TCCTGCACAG AAGAGAGGGA AAGTATCTGC AGAACATGGT GATTGAGTTC     1740

ATCCACAATC CCCAAGGCAA CTCCCAGATA CTGGTCTCTA TCCTTATAAC GACCGATATT     1800

CTCTCTCATA TTTTCGATTA GGATTTTCAA ACTAGCCAGC GGTGTTTTCA ATTCATGAGA     1860

AGCTCCTCGT AGGAATTCGA CCTTCATCTT CTCCAGCTGG AGAATGGCTT CATTCTTTTC     1920
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941

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ATGCAAGTCC GCAATAACAG TCAAGAGATG CTGGTAGAGG CTATTGATTT GTTCCTTGAG    1980

ATTACCTATC TCATCCTTAG AATCCACGCG CAATCGCACT TGGGAATCCA GGTCCATCAT    2040

CCGACGGGTC ACCCGCTTGA TTTCCAAAAT CGGTGCAACA ATAGTCCGAG CGTAGATGTA    2100

GGCCACCAAA AGGGAAATCA GAAAGGAGGC CAGCAAGGTA TAGGGAAGAA ACTGGAGACT    2160

GATTTGCTCC GCTTCCTTTT GTAAATCCAT GGAAGCTAGA AACTGGAGAA TCATAGTACC    2220

ACCGTCTTGC GTTTTCACCT CGCGCTCCTC AATAAAGAGA GAGGTTGTCT GGCGGTCTGT    2280

GTCCAGAGGA AGACTGTCCT TGACTTCTAA CTTGTCCTCG GTCATCTCAC CTTTGACGGT    2340

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ACTCAGATAA GTCGAAGGAA AAAGAAAATA AATAGCTAAA TGAAGGCAGA TAACCAGAAC    2520

ACTAAATATC GAGAAGGTAT AGATAAATAT CTTTGCAAAT AAACCTGTTC GTTTCATTTT    2580

CGCTCCAATT TATAACCAAC ATTGCGCACA GTGAGGATAC AATCCAAGTC TAGCTTTTTC    2640

CGCAATTCCT TGATATAAAC ATCAATAACA CGGTCAAAGG GAACCTCATC TGTCGCTTTC    2700

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TTTATTCACC ATCCAGCAAG AGCTCTTTTG GTTGTTTTCT AAGGAGATTG CTTGAAGCAA    3600

GCGCCATAAC GAGAACCACT AGAACCAAGG CAAGGACAAA AATGATGATA AAGTCTGATG    3660
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942

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TGGCAAGGAC AGTGTTTCCA ATTGCACGGG CAGTGTAATT AGCTAGGAAG TAAGCAGAAA        3840

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TGAGCAAGAG GGCAAGGAGG AGAACTGAGA AGCTCAAGCT ACCCCAGAAG AGGAGGTTGG        4020

CCATCTTGTA CATACCAGAG ATAGATTGCT CAAGAGCTGG GTAGTTAGAG GAGCTCTTGA        4080

CGAGTGTGTA GCTCTTCCAG TTGATACCAC TGATGCCATT CAACTCTTTC ATAACATCAT        4140

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CACGATCAGC AGTGAGATTC TTCTTGGTTT CTGGCGTTTC AATCAGGTCA TATCCAGTCA        4620

AATCTCCGAT AGCGTTGATA CGTTTGACAT AAGACTCAAT GGCCTTGTTT TCGGTGATTT        4680

TTTTGATGTC TTCACCCTTG ATATTCCCAG CACCACGAGG CGTTCCTTGG TTGACGCGAC        4740

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943

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TATAACGGTA GGTAACATCT TGTAATTGTA ATAAAGTCAT GATTTCTCCT TCTTAACTAA    5640

TAGATGATAA AATTTCTTTC GGTGATTTTC TAAATAAGAA TAGGAAACAA AGGGCTACAG    5700

ATAAGCAACT AAGCAGAACT AGAAAAACAT AGGATTCTGC AAAAGATAAG ATGCTAGTTG    5760

ATAAACTGCT TGCTTTGGCT AGTGTATCTT GTAAGCTTGC CTGATCTCCA CTTGCTAGTA    5820

GAGTTTGGAG TAGGTAAGTT GTGATTGCGT TTCCTGCAAC AAATGCTGGA AGCAAAGCTC    5880

CAAGAGATAC CAAAACTACC TCTAAACAGA ATTGTAGGAA GATCGAGCTC TTGCCTTTTC    5940

CAAGTGCAAG TAAAATCCCC ACTTCATAGA CCCGTTCTCT CAACCAGAGA GACAAAACCA    6000

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GATTTTCTAC ATAGAAGCGT GCTGCACTGA CTTGAGCTTC ACTATTGCCC AAAAGGGTTT    6240

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ATAATCCAAA CACGAAACCA GTCCACGTTT TTCAAGGACT GGTTTTGATA TAGCACGTTT    7140

AAGTACCGAC TTCTGAGCTA CTATAGTAGA TTGAAACTAG AATAGTACAC CTCTACTTCT    7200
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944

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CCCTAACTTA AGCAATCCCC ATAATCGTCT CGATTTCTTC TTCCATTGCT TCCAGATAAT   7380

CACTCGTAGG CGAGTACGCA AGCGCTCATC TATGCTAGTG ACTATACTTT TCATATTTAT   7440

AATTCATTCC TTTCGTTTCA CTCAAGGCAC AACACAGAAT GAAAAAGTGT TGTGATCTTT   7500

ATTTTGTTTT ATAATAATAG TGAGAAAACC TATCACTACT ACAAATCACG GGGAGGTGAA   7560

TAAGTGAGTG GTACAGCCAC TACCTCGCAT ATTTTGTCAC ATCATTTAAC GGTACATAAT   7620

AAGTTGTACC ATCTGAATAA GTTGCTACAA TATCATTTGC ATGCTCTCCT TCACCTTTAG   7680

CAAAGGTTGG AGCTCCTGCT GGATGATTTT TATTTGCCTC TTTCAATTTT TCAATAATGG   7740

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GATCTTGATC CAAAATCATC TGGTGTAGAC ATTCCTTGAT TGGCTTCAAG TCCACGAGTC   8580

TTTCTCCCAT ACTCCAAAGA TAGAGCTGAG AAAAAGTATG AACACCTTGG TGACCCTGAC   8640

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CCGTCTGAGA CCAAACCTGA CCCAACATGA TAGAAAGACG AAGTCCAAAG TCATACTCAA   8760

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CGAAAACATA ATCCTGAGCT CCGACCTGTA GCACTGTCTG ACAATTCGGA AAAAGAGTCC   8880

GCATCATATC TAGCCAAGAA GCCAGATTTT CCTGCTGAAA ATAAGAAAGA TGGCAATAAA   8940

CCAACTGAAT CTTTTTAAAA ACTTGCGGTG CCTGTCCCTT GCCCTCAACC AGATAGGAAT   9000
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945

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ACCAAGGGTT TAGCGAACGA GCCTGCTCCT GCTGGGTCAA AAGGGCAACC AACTGCTTTT      9060

CACGCTCGCT GAGCCCAGCT TCCTCCAGCA AAATCCACTG CTGAGAAGCT AAAGGGAGCG      9120

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946

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TTGCCGTCCT CAATCGGGAC AAATTCTCGC AAATCACGAG ACATGGTGTC ATAGATTTTA   10920

ATCATAAATC ATAATCAGGA AAGCTGAAAT CCAAGAACAA TTAGTTTCAT CACTAAAAGT   10980

TCAAGTAAAT TTCAGTCCGA ATATCTCTAC ACTTCGGAAT CCCTTGCTCC TTTCTCATTC   11040

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947

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CTTCTGACAA TTCTTTGGCA CCAGACTCTA CCATGTTGAT AGCGTGCTTG GTTCCAGCTA    14220

CTGTCAATTC AAGAAGAGAT TGCTCTGCTT GTTCTTGACT TGGGTTGATG ATGATTTGGC    14280
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948

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CATCTACATA TCCCACTTGT ACCCCAGCAA TTGGTCCGTC AAATGGAATA TCTGAAATAG    14340

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956

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AATTTGATAT TGTCCATTCT TTTTCATAAT ACCTATTACA CCTGGTATCT TCTTCACATC   28560

ATCATCATTG ACTAAATTTT CATCTTTTAA TTCTAATCTT AAACGTGTTA CACAATGGGT   28620

AACTCTATTG ACATTTTTTT CACCTCCAAT TACATCGAGG ATTTTTTGTA CCGTATCTTT   28680

ATAACTCATG GTATTCTCCT ATTCTATTAA TCTAAATTTT TTGTTAAGCG ACGAATATGA   28740

GCCATCAAAT AAACTAATTC ACTAGAAGTC AGCAAATAAT TGTACTCCGT TTGTATAAAC   28800

ATTGCTACCT GTTCACCACA TTCATATTCT CTAGGATATT TATTTTTCAT TAATGCTAAC   28860

AAGTCTTCAT CATCATCGTC GG   28882

(2) INFORMATION FOR SEQ ID NO: 141:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 12835 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 141:

GCCTATGTCT TTTTCAAAAA AATGCTTGAC TTGAGACGGG AACTAGGGAA GTCTAAAGGC   60

GGAAGGCATT GATTTATACT CTTCGAAAAT CTCTTCAAAC CACGTCAACG TCGCCTTGGA   120

TTATATATGT AACTGACTTC GTCGATGCTT ATCTACAACC TCAAAGCAGT GCTTTGAGCA   180

ACTTGCGGCT AGTTTCCTAG TTTGCTCTTT GATTTTCATT GAGTATTATA TTACTTTCTA   240

TTTGTAGGAG GTGGCTTATG AAGATTCCTC TCTTAACTTT TGCAAGGCAT AAATTTGTTT   300

ATGTCTTGCT TACTTTGCTT TTTCTTGCTT TGGTTTATCG TGATGTTTTG ATGACTTATT   360

TCTTTTTTGA TATTCATGCG CCCGATCTAG CTAAATTCGA TGGACAAGCA ATTAAAAATG   420

ACTTATTAAA ATCAGCATTA GATTTTCGTA TTCTCCAGTT CAATCTAGGT TTTTATCAAT   480

CATTTATTAT TCCAATCATC ATTGTTTTGC TAGGTTTTCA ATATATTGAG CTGAAAAATA   540

AAGTTTTACG ATTGAGTATT GGAAGAGAAG TGAGTTATCA AGGGTTAAAA AGAAAGTTGA   600

CTTTGCAAGT TGCAAGTATC CCTTGTTTGA TATATTTAGT GACTGTGCTG ATAATTGCAA   660

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GAAGTGGTTT ACAAAGACTC CTAGATGGAG AGATAAAAAG CTATTTGTTC TTTACTTGTG   780

TCCTACTAAT CGGTATTTTC ATCAATGCAA TCTATTTTTT ACAAATAGTT GATTATGTGG   840

GGAATGTGAC TCGTTCGGCA ATCACCTATT TGATGTTTCT TTGGCTTGGT TCTATGCTGC   900

TTTATAGTGC CTTGCCTTAC TATATGGTTC CTATGACGAG TTTGATGCAA GCTAGCTATG   960

957

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CTTTGGATTA ACTTATTTAT CACATTTGCC ATTTTGCCGA TTTTTGGCAA TTAAACAGTC    2640

ATAAAAGTCG GAGAGGTTAG CTTGAAAACT AACCTCTTTT TCCTTTTCAA AATGGGGATT    2700
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958

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CTTGAAGGGA ATCTTTGAAC GCTTGAACAT GTCTGAAGAG GCCATTGAGT CTCGCATGTT    4500
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959

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CACGATTGAA CGTGTCGTTG ATGGTCATGC GCGTGCCAAA CAAGATGAAA AACTAGAGGC    4740

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AAGCAGTATA TTGAACAGAT CCGAATTGTC CGCCAGACCT TGATTAACCG TGCTTGGAAT    6240
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CTTGAGACTC AAGGAAAGCC GTGACAGGGA ATTGGCAGAT ATTATTTCAG GGAAGATGA       6540

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TGCCGTTGCC AAGGCAATTC AAGATGATGT TGATGGCTTT TGCGTTTCCA ATATCGATGA      8040
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961

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962

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(2) INFORMATION FOR SEQ ID NO: 142:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 5020 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 142:

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ATTTACACAA GCCCCTTGTT AGCCTTTGTT TTTGTCTTCA TAGGAGAGTT TGTGGCTTTT    120
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964

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TTTAGTGGTC TTAGGTCAAT ATCGTTTGGA ATCCATTCAC TTGAATCCTT ATTCTCTTGC      480

CTTTGTCGTC TTTACTATCC CATTTTGGAT TTTACAGGGG ACAGCAGAAG AAGTGGTGGC      540

CCGTGCTTGG CTACTTCCTC AATTGGCCTC AAGAACCAAT CTAAAACTAG CTATTCTTAT      600

ATCTAGCCTG TTCTTTACCC TGCTTCATAT GGGCAATTCT GGTCTCACCC CTCTATCTCT      660

AGTAAATCTC TTTTTATTCG GAGTTGCCAT GGCTCTTTAC CTTCTCAAAA CTGATACAGT      720

TTGGGGTGTT GCAGGTATTC ATGGTGCTTG GAATTTTGCT CAGGGTAATC TCTTTGGGAT      780

TTTAGTTAGT GGTCAACCGT CAGaACGTCT CTGATGACCT TTTTACCACA AGGCAATCAA      840

GATTGGCTAT CAGGTGGTTC TTTTGGCATA GAAGGTTCCA TTATGACAAG TCTGGTATTA      900

CTACTGCTGA TTGTCTATCT TGCTAATAAA TTAAAGAAAG AAAATGAAAG GATGTGACTT      960

CGGTCCGTCC TTTTCTTCGT GAAAATACTA TAAGTATGCT AAAATAGGAA TAGCACATGG     1020

AGAGAGGATT CTTATGATCA ATCACATTAC AGATAATCAA TTTAAACTAG TATCAAAATA     1080

TCAACCATCA GGAGATCAAC CCCAAGCTAT CGAGCAGTTG GTGGATAACA TTGAGGGGGG     1140

AGAAAAAGCT CAGATTCTGA TGGGGGCGAC TGGAACAGGG AAGACCTATA CTATGAGTCA     1200

GGTCATTTCT AAAGTCAATA AACCAACTCT GGTTATTGCC CACAATAAAA CTCTGGCTGG     1260

TCAGCTCTAT GGGGAGTTTA AGGAATTTTT CCCTGAAAAT GCAGTTGAGT ATTTCGTATC     1320

CTACTATGAT TATTACCAGC CAGAGGCCTA TGTCCCTTCT AGCGATACCT ATATTGAGAA     1380

GGATAGTTCT GTCAATGACG AGATTGACAA GCTTCGCCAC TCAGCTACCT CAGCCCTTTT     1440

GGAGCGTAAT GATGTTATTG TCGTGGCCTC AGTCTCTTGT ATCTATGGTT TGGGTTCGCC     1500

CAAGGAATAC GCTGATAGTG TCGTTAGTCT CCGTCCTGGT CTAGAGATTT CTCGTGATAA     1560

ACTCTTGAAT GACTTGGTCG ATATTCAGTT TGAACGTAAT GATATTGATT CCAACGCGG      1620

AAGATTTCGC GTTCGTGGGG ATGTGGTAGA GATTTTCCCA GCTTCCCGAG ATGAACATGC     1680

CTTTCGAGTA GAATTTTTTG GAGACGAAAT TGACCGTATT CGTGAAGTTG AGGCTCTGAC     1740

AGGTCAGGTG TTGGGAGAAG TGGATCATTT AGCGATTTTC CCAGCGACAC ACTTTGTGAC     1800

CAATGACGAC CACATGGAAG TTGCCATTGC AAAGATTCAG GCCGAGTTGG AAGAACAATT     1860

AGCTGTCTTT GAAAAGGAAG GTAAACTGCT TGAAGCCCAG CGTTTGAAAC AGCGGACAGA     1920
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965

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GTATGATATC GAAATGTTGC GTGAGATGGG CTATACCAAT GGGGTTGAAA ATTATTCTCG    1980

CCACATGGAT GGACGGAGCG AAGGAGAGCC TCCTTATACG CTTCTCGACT TCTTCCCAGA    2040

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CAATGGAGAC CGTTCGCGTA AAGAAATGCT GGTTAATTAT GGTTTCCGTT TGCCGTCTGC    2160

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CGTTTCAGCG ACACCTGGTG ACTATGAAAA TGAACAGACC GAGACAGTGA TTGAGCAAAT    2280

CATTCGTCCA ACGGGACTCT TGGATCCAGA GGTGGAAGTC CGTCCGACTA TGGGACAGAT    2340

TGATGACCTC TTGGGTGAAA TCAATGCCCG CGTTGAAAAA AATGAGCGTA CCTTTATCAC    2400

AACTTTGACC AAGAAAATGG CAGAGGATTT GACCGACTAC TTCAAGGAAA TGGGTATCAA    2460

GGTCAAGTAC ATGCACTCGG ATATCAAGAC CTTGGAACGG ACGGAGATTA TCCGTGACCT    2520

GCGCTTGGGT GTCTTTGATG TCTTGGTCGG AATTAACCTG CTCCGTGAAG GAATTGACGT    2580

TCCTGAAGTG AGCCTCGTAG CTATTCTCGA TGCTGACAAG GAAGGTTTCC TTCGCAACGA    2640

ACGTGGACTC ATCCAGACCA TTGGACGTGC TGCACGTAAT AGCGAAGGTC ATGTTATCAT    2700

GTATGCGGAC ACGGTTACCC AGTCTATGCA ACGTGCTATC GATGAAACTG CCCGCCGTCG    2760

CAAAATCCAG ATGGCCTATA ATGAAGAACA TGGTATCGTT CCACAAACCA TCAAGAAAGA    2820

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AGAAGACTGG GAGAAAATAA ATGACGGTTA TTATCAAATC AATGGAAACT CCTGAAGAGA    3600

TAGAAGGTAA ATCCTTCGTT CACTGGCAAA CGTGGAGAGA GGCTTATGAT GACCTTTTGC    3660
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966

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CTGCGGAATT TCAGGAGACA ATGACATTAG AAAGATGTCG ACTCTTTAGT CAAAAGTATC      3720

CAGAAAATAC ATTGATTGCG ATGGATGGTG TGAAGATAGT TGGTTTTATA AGTTATGGCA      3780

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AAATGGGTTT TACTTTTGAT GGACAAGAAA AAATACTTGA ACTTGGAAAG CCTATAAAGG      4020

AAAAACGGAT GGTATTCTAT TCTAAATAAT TCTCAAAAGT AAAAGCTAAT ATGGTACCAA      4080

GTCTGAAAAT TTAATAAATT AGAAAGCGAG TAAATTTATG TCCCGTTCCC AATTAACAAT      4140

TTTAACAAAT ATCTGTCTGA TTGAAGACCT CGAAACTCAG CGCGTGGTGA TGCAGTATCG      4200

CGCCCCTGAA AACAATCGCT GGTCTGGTTA TGCCTTTCCT GGAGGTCATG TAGAAAATGA      4260

TGAGGCTTTT GCGGAGTCTG TCATTCGTGA AATCTACGAA GAAACAGGGT TGACTATCCA      4320

AAATCCTCAA CTTGTCGGCA TTAAAAATTG GCCACTAGAT ACAGGTGGGC GCTATATTGT      4380

CATTTGTTAT AAGGCGACTG AGTTCTCTGG TACCCTTCAA TCTTCAGAAG AGGGAGAAGT      4440

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GATGGAAATG ATGGAAGCTC CCGACAAGTC AGAGTTTTTC TACCCTCGCC GTACAGAAGA      4560

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CAAGATATTT TGAACGCGAC CACCATTATC TACGATAGCA AGTAATTCTC GTCCAATTTC      4860

TTCAACTTCA TGCTTGACCT TAAATAATTT GTGATGATAA GTATTTGCAT TAGCATCTTT      4920

ATAGATATAA CCACGATTGG TAGATAGAAT TGGAGATCCA TCAGCTCTTA AAATTGCAAT      4980

ATCTTGAACA ATAACTTGTC GAGTGACATG AAAGTGCTCA                           5020
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(2) INFORMATION FOR SEQ ID NO: 143:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4965 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 143:

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967

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GAAGAAGGTC GTGTAGTACT TGAGTTACTG CTATCGCTAG AACTACTACT TGAACTGCTG     120

GAGCTGGATG GAGTTGGTAG ACTCCCCACA ATACTAGACC AAGCATTCTG ATAATCCGCA     180

TCACTTCCGC CAATAGCAAA GCGATAACTT GTCGCTGGCG CTCCTGACTT ATTAGCCCAA     240

TAGCTGGTAA CAGTCGAACC TGTGACCTCT ACTTCTTTTC CTTCAACAGA AACCTTCTCT     300

GGTTTTTGAC CTGTTGATTT CAAGACTTCC GATTTCACTA CACTAGGATC TAAAGCAAAG     360

CGCTCGTTCC CCCAAATGCT TGGGGAAGCT TGCTGAATCG CATTTACCAG ATGAGCCATG     420

TAATTAGAGT TATTAGAATA ACCTGCTCTA CGTGACAATG AATGATTATC ATCATGCCCA     480

ATCCAGCCAC CTAGGGTTAA TCTAGGTGTC GAAAGCATGA GCCACATATT TTCGTCTTGG     540

TTGGTTGTAC CAGTCTTCCC AATCCAATCT GCATTAGCCA GAGTAGGATT TAAAGAAGTC     600

AGGTTAGACT TGAAGGTTGT TGTCACACGA GAGGATAGAA CTTCTCGTAG CAATCCCTGC     660

ATAATCGTCG CAGTAGCTTT TGAATAGACT TGAACCGGTT TATCCTGATA CTCATACACC     720

ACTCTACCAT CTGCTGCTTC AATCTTTGAA ATCACATGCT TCTGATGATA AACTCCATTA     780

TTAGCTAAGG TCTGATAGCC ATTGGTATGC TGGGCAACTG TGACTTCAAT ACCACCACCC     840

ATTGGCAAGC TCTCAATACC GTACTCAGGA ATCTCGTAAC CCATCTTTTC CATATAACCC     900

TTGACATCAA CACCCTTTTC ACGGAGCATA CGATAGGTCC AGTAAGCAGG GATATTCCAT     960

GAATAGTTCA GAGCTTCTCC CAAGGTCATC ATTCCTGTTC CCTTGCTATT AGCATACATA    1020

ATCGGATTGC CATTAGCAAA GTTTGTTGGA TAGTTAGATA GAATCGTTTC ACTTCCCATC    1080

AAGCCCTGGT CAATAGCAAT ACCGTAGGCC AGCAAGGGCT TGGTAGTAGA AGCTGGCGAA    1140

CGTTTGGTAT CAAAGGCATG ATTATTTTGA TTTTCTTGAT AATTACGACC ACCTACAAAG    1200

CCTAGAATAG CACCTGTTTG GTTATCCATC AAGACATTCC CTACTTCTAC ACGACCTGTT    1260

CCATCGTCTA AAAGATAGCC ATAATCAGCA ACCGCACTTT GCATGGCAGA ATGAATTTTC    1320

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GCTAGATAGT CATACATACG TTCTTGAGCT TCTGCCAAAG TTGTAAAGTA TAAATAGTCT    1500

CGTGAAATTC CTGTAACCGT GCCCGATGGT AAAAAGTCCT GTTTAAGGTC ATAATCCTTG    1560

TACTGAGAAT ACTCGTCTTT GCTTAATGCA CCTGTACGAT ACATACTGTA AAGAACTGCC    1620

TTAGCCCGTC TTAAGCCAAT TTCTAGGTCT TCATCACTCT TCAACTCCCC AGTATTTTCA    1680

TAAGGAGAGT AAGTAATGGG ACTCTGTGGA AGTCCTGCTA AAAATGCTGC TTGAGGAACA    1740

GTCAACTGAC TGGCATCTAC ACCGAAAATT CCCTCAGCTG CTTGCCGAGC CCCTGCAATA    1800
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968

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TCTTTATTCA TGGCGCGTTC CAAGGCAAGA GCATCCACAA TCTCTGCCGC CTTACGAGCC      1920

AAGGTCGGCG CATCCCCAAC CACCTGCTGT TTAATTAGTT GCTGGGTCAA GGTTGAACCC      1980

CCACTAGAGG AACCCAAACC TACAAATTTC CCCAAGGTCG CACGAATCAC CGCCTTGGGT      2040

ACTACACCCT TATGTTCTTT AAAGTGTTCA TCTTCTGTCG CAATGATAGC CTTCTTCAGA      2100

TTTTCCGAAA TTTGCTCAGA TGAGATAGAA GTGCGCAACA AATCACTCTC TATGGAAGCA      2160

ATCACCGTCC CGTCCGAATA GGTAATCTCT GAAATAGAAG AGATGTCCTT GACCTGATTC      2220

ACCAATTCTT CTGTCTGAGG CACCCGAACC TTGTCAAATA AGGCCACTCC GTATCCCAAA      2280

GCAATCCCAG CTCCCAACAT TCCTCCTAGA AAACCGAGTA CAAAGAGTAA GTTAAATAAG      2340

GCTTTTATAC TCAGTAAAAT AGCTGGGAAA ATGACTGACT TATCTAAGGT TTTAGATTTT      2400

TTGGTACTTG AACCTTTCTT GCCAGGTCTA GCTGATTTTT TATTTTTTTG TTTTTGCTGG      2460

AAAAATTCCA GCATTTTTCG TTTTAATTCA TTTAATTGAT TTTGCATGGA TTTCCTCACT      2520

TTATCTATTA TACCACAAAA GGGAAATTTT CAATAAAATA GCCACTTTCT TCCCTATTCT      2580

GCTAGGCTAT TGCCCAAGTT TGTGATACAA TAGGTAGAAA CAATAATTTT AAAAAGGAGA      2640

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ATCCGTCCTT CAAAGATGCT GAACGTAGTC TCCAAACAAA AGACACAGTA GATGGCTGGG      2940

TCAAGTCTAT CCAAGGACAA CTTTCTCGTT TTCTTGACTT TGAAAATGGC GAAAACAAGG      3000

CTGTCATGGT CAACAACTAC GACTGGTTTG GCAGCATCAG CTTCATTGAC TTCCTCCGTG      3060

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TGGACGCTGA CGCTGTTCGC TTCTTGAAAA TCTTTACTTT CTTGTCACTT GATGAGATTG      3480

AAGATATTCG TAAACAATTT GAAGCAGCGC CACACGAACG CTTGGCTCAA AAAGTCTTGG      3540

CTCGTGAAGT TGTTACACTT GTTCACGGAG AAGAAGCCTA CAAAGAAGCA CTTAACATCA      3600
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969

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CTGAGCAACT CTTTGCAGGA AACATCAAAA ACCTTTCTGT CAAAGAGCTC AAACAAGGAC    3660

TTCGTGGTGT GCCCAACTAC CAAGTACAGG CAGACGAAAA CAACAATATC GTGGAACTGC    3720

TCGTCTCATC TGGTATAGTT AACTCAAAAC GCCAAGCCCG TGAAGACGTC CAAAACGGAG    3780

CCATCTACGT AAACGGCGAC CGCATCCAAG AGCTTGACTA TGTCTTGAGT GACGCTGATA    3840

AGTTAGAGAA TGAACTGACT GTTATCCGTC GTGGGAAGAA AAAATACTTT GTATTGACTT    3900

ACTAAACTAT TCAACATTTA TCTATAAACA AAGGAGTTAA CCTCGAGAAA GGTAACTCCT    3960

TTTTGCTGTT AATAACTCTC ATCTATCTAT TTTTAATAGA CAGGCTACGC AGGACAATGC    4020

GCAAGGTTGT TAGATTATGT AAGATAGAGA GATTTGAAGG ACTGAACCAA TTAAATAAGC    4080

CAAAGCCAAT CAAACTACTA TTTACGACAA CGGTATCCTG AATATTTTTC TTGATGAGTG    4140

TTTGCAAAGA TGATGATAAC GAATCCAACT CTTGGAAGAA ATCCAAACGA TTATCTAACA    4200

ATAAGATATC ACTCATCTGC TTAGAAATAT CTGCACTCTC ATTCATCACC ACACCGATAT    4260

CTGATAGAGT TAAAGCCGCT GAGTCATTCA ATCCATCTCC AACCATCAAA ATAGTGTGAC    4320

CTGCTTTCTG CAGTTTCTCT ACTAACTCAA ATTTCCCATC AGGTTTCAAG TCTGTATAGA    4380

CCTGATCAAA GGGCAAATCT TTGACTAATT CCTCTGTCCT AATCAAGGTG TCTCCTGTTG    4440

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GATTGTAGTG ACTCTTGTAC TCTTCAATTA AAGCATTTTG TTCTGAACTG ATATGAATCT    4620

GCTCATCCTG CATCAAGACA TAATTCCCAA TAAGAACTGG TTGGCCATCT ATATGAGATT    4680

TGATCCCCTT GCTTGCGATA TATTGGAGTT TCCCATGCAT TTCCTCATGT TCAATTCCCT    4740

CTATCTCAGC TTGCTTGACG ATGGCATTAG CAATAGGATG ATAAATGTGT TCCTCAAGAC    4800

AGGCACTGAT TCTGAGAATA TCTTCCTCAC TATAGTCTCC AAAAGGTAAC ACCTTTTCAA    4860

CTATAGGATA ACTAGTTGTG ATTGTTCCTG TCTTATCAAA CAAGAAAGTA TCAACTTCCA    4920

GATATTTCTC CCTGTTGTGG CCTCTGGCTG TCATCTCTGT GCTGG               4965
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(2) INFORMATION FOR SEQ ID NO: 144:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 3232 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 144:

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                                      970
CAGGGGCGTA TTACGTGACA ATTCAATGTA GGCTGTCGCT ACTTGCGCCA AAACAAGGAT        60

TCGATAATGT CGGATGATAC TAACGATTAA ACCGAGCAGA AAGGATCCCA AAATTCCCCA       120

AACTGCAATA TGCAAGGTCA GAAAGAATGC CTTTTGATAT AGTGGTAGAT ATTGTTCAAC       180

AATGGATCAA TCCAAAAATA GAACCTCCCA TCTAGAAATA ATACAGTTAT TGTAGCACTT       240

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ATAAAATTTC TGAAATTTCC AAACAAAATA TTTTAAAAGT TTTGAAAAAG AGTTAAGATA       360

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CAACAAGTTA TTCCTAAAGC AGCATTTGGC TATATCGCTA GTGGGGCGGG AGATACTTTC       540

ACTTCTTTCC AGTGATTTTA GCGTCAGGTT CTTTTTAGTT TTTAAAGATT ATCCGTGAAT       600

TTCTTGCTTA TTTATGATAA AATGGGAGTG TCGCAAAAAA TGACTCATCG TATTCAATTT       660

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TGACTTCCTT GGTGTCGAAG GTGAAGTGAT GCGTACGGAT ATGGGAGAAC TCTCTATCAA      1080

GGCAACCCAC ATCACACACT TGTCTAAGGC TCTTCGTCCT CTTCCTGAGA AATTCCATGG      1140

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GATTAACGAA CCATTTAAGC GTGTTCATAT GGTGGATGCT ATCAGAGAAA TTACTGGTGT      1680

CGATTTCTGG CAAGACATGA CTTTGGAAGA AGCTAAAGCT ATCGCTGCTG AGAAGAAAGT      1740

TCCAGTTGAG AAACACTACA CTGAGGTTGG TCACATCATC AATGCCTTCT TTGAAGAGTT      1800
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971

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TGTTGAAGAA ACTTTAATCC AACCAACCTT TGTCTATGGA CATCCAGTAG CTGTATCTCC      1860

ACTCGCTAAG AAAAATCCTG AAGACCAACG CTTTACTGAC CGTTTCGAGC TCTTTATCAT      1920

GACTAAGGAG TACGGTAATG CCTTTACTGA GTTGAACGAC CCAATCGACC AACTTAGCCG      1980

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GTCACCTCCA GCTAGATGTT TGAGAAAAAG ATAGAGATTG TAGGCGATAC AGCTCATCAT      3060

CATACGAACT TCGTTTTTGA TTAAGGTTGA ACTATCCGTT TTATCGCCAA AAAATCCCTC      3120

CTTCATCTCC TTGATGAAAT TCTCGGCTTG ACCACGTCCA CGATAAAGCT GAAACTGGTC      3180

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(2) INFORMATION FOR SEQ ID NO: 145:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 10711 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

972
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 145:

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ACACAAATAT TACCAGTAAC GTGGTTGATG GTTTGCTAGA AAATGATCGC TACGGGAACT         240

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CACAAGTAGG AATTAAGGCT CTGGATGAAC AGACAGTTCA GTACACTTTG AACAAACCAG         540

AAAGCTTCTG GAATTCTAAG ACAACCATGG GTGTGCTTGC GCCAGTTAAT GAAGAGTTTT         600

TGAATTCAAA AGGAGATGAT TTTGCCAAAG CTACGGATCC AAGTAGTCTC TTGTATAACG         660

GTCCTTATTT GTTGAAATCC ATTGTGACCA AATCCTCTGT TGAATTTGCG AAAAAATCCGA         720

ACTACTGGGA TAAGGACAAT GTGCATGTTG ACAAAGTTAA ATTGTCATTC TGGGATGGTC         780

AAGATACCAG CAAACCTGCA GAAAACTTTA AAGATGGTAG CCTTACAGCA GCTCGTCTCT         840

ATCCAACAAG TGCAAGTTTC GCAGAACTTG AGAAGAGTAT GAAGGACAAT ATTGTCTATA         900

CTCAACAAGA CTCTATTACG TATCTAGTTG GTACAAATAT TGACCGTCAG TCCTATAAAT         960

ACACATCTAA GACCAGCGAC GAACAAAAGG CATCGACTAA AAAGGCTCTC TTAAACAAGG        1020

ATTTCCGTCA GGCTATTGCC TTTGGATTTG ACCGTACAGC CTATGCCTCT CAGTTGAATG        1080

GACAAACTGG AGCAAGTAAA ATCTTGCGTA ATCTCTTTGT GCCACCAACA TTTGTTCAAG        1140

CAGATGGTAA AAACTTTGGC GATATGGTCA AGAGAAATT GGTCACTTAT GGGGATGAAT        1200

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ATGAGACTAC AGATGTTGCT AAACGCTATG ATAAATACGC TGCAGCCCAA GCTTGGTTGA        1740
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973

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CAGATAGTGC TTTGATTATT CCAACTACAT CTCGTACAGG GCGTCCAATC TTGTCTAAGA        1800

TGGTACCATT TACAATACCA TTTGCATTGT CAGGAAATAA AGGTACAAGT GAACCAGTCT        1860

TGTATAAATA CTTGGAACTT CAAGACAAGG CAGTCACTGT AGATGAATAC CAAAAAGCTC        1920

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AACATGTGAA ATAACTGTTG CAAAATATAA GAAAGGATTT AGTATTTCCC TTGAATGCTG        2040

AATCCTTTTT TACATTTGTA AAGAAAGATT CTAAAATGTA CGGACCCCCA AAAGTTGGAG        2100

CCTCTTTTTG TCAGAATAGA GAAAATTTTT GTTAATTTTA CTTGTTTCCT ATTGCTTTCT        2160

CAGCTATTAT TTGTTATATT AAAAGTATAA TTATTTTTTA TTTATCAGAG TTAAGCATTG        2220

CACTTTCAGA GGAAGGAGTA TTTTTTAAAA AGAAAATGTA AACGTTTGCT CAAAAATGAA        2280

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TCTAAGGTCC TCAAAGCAGT GATTGACCAA GCCTTCCCTC GTGTCAAGGA ATACAGCTTG        3360

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CGAATCACCC CTGAAGTCAC TTATAAGAAA ATCAATGAGA CAACAGCAGA GTACTTGATG        3480
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974

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AACGCTTCAG AAACTTATCC TGAGTCTAAA TACTTCAATG AAAAAATTCT CCGTAAGAAT        4440

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CTTTCTACTG ATAAGGAAAA GATGTACTAC TTCAATACGC AGGCCGGTGC AACAACTTGG        5280
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975

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976

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GAGGAAGTAG CTAGCGTTCA GGCAAGCATG AAATATGCGA CGGATAACCA TCTCTTGACG    7320

GAAAGAATGG TGGAATACTT TGCAGATTAT CTCAACCAAT TAAAAGATTC TGCTACGAAA    7380

CCAGATGCTC CAACTGTAGA GAAACCTGAG TTTAAACTTA GATCTTTAGC TTCCGAGCAA    7440

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977

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TGCCGGCAAT AAGTAGGTTT CTTGCTGAGA AGAAAAGTGA AGAAGGACAA AGCAGATTCC   10140

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GCTCGAATTC GTAATCATGT CATAGCTGTT TCCTGTGTGA AATTGTTATC CGCTCACAAT   10500

TCCACACAAC ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG   10560
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978

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CTAACTCACA TTAATTGCGT TGCGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG   10620

CCAGCTGCAT TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTTGCGTA TTGGGCGCTC   10680

TTCCGCTTCC TCGCTCACTG ACTCGCTGCG C                                 10711
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(2) INFORMATION FOR SEQ ID NO: 146:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11887 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 146:

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CGGATACTGT AAAGTATTAT CAATTTTAAT CAAATCATCA TTACCGATAA TACTTCTGAT    120

TGCTTTTGGT AGTATGAACC ATACGTTGGT GAAATCTCAG ATAATGAAGA ATCATTAGAC    180

TCTGGACCTT TTTCTAGTGT CTCACTTACC TCATATTCTT CACCCTTACT AGAAATAACA    240

CTCAAAGCAG ATACTGTCGA TAACTGGCTA GCCAATAAAG TACTCGCAAT AATTGAAATA    300

CCCAATTTTT TATAAACAGT TTTCTTCATT ATTGTATCCT CCTAATGTAA TTATAGCGTA    360

CTATTCTAAA TTTCTTAATC TACTATAGAA TCAAGAAATC TACCACCTTC TTTAAATACC    420

CTCCATTATC ACATAAACAG GTAAACTTTT CAATTAATGA CTGCGCTTTT CAATCACGCT    480

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GAGTATTGGT CTTCTCTTTT CTTAACAACT GGTGGTCAAT AGCGACACGT CTCAGCCAGA    720

TATTATCTGA TAGGCTCCAT TTTATACTCA ATGAAAATCA AAGAGCAAAC TAGGAAGCTA    780

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979

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AAACCAATCC CATTGTCCAC CACCTTCAGT TGCAATTCAA CATCTGTCTG ATAGAGGTAG        2100

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TCTTGTTACT CTTGAGATAG TCTTTTGTTT CTTGATGATA GTGTTCATTG CGGAGGGCTC        3000
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AGAAGGGCCT GCATGGTAGA CTGACCCCAT TGATTGAGGT AATCACGCTG GCCACTACGA       4020

CGGTTTTCGA TATAGGCAAA GCTGGTGCCA CCACGACCCG ATAGGTCCAC TGTACGAACA       4080

CCGAATTCAT AGGCTCTTTC GATTGTCTTG GCATCCATTC CAAAGCCCAC TTCCTTGAGG       4140

ACAATAGGAA CGGGAATTTG CTTGCTATAA TCTGCTAGAT GCGATTGCCA GCTTCTAAAC       4200

TTCCTTTCTC CCTCGGGCAT GAGTAATTCC TGCATGACAT TGACATGCAC TTGCAATAGA       4260

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TTGGTTCCAA GGAGGAGATT GGGATGACTA GACTTGACAG AAAAAGAATC ATCCGTTGGA       4380

TTTTTGAGGG CTGCGCTATA AGAACCCGTT ACAAATAAAA TACCACAGGA TTCCGCCACC       4440

TGAGCCAGCT TTTGATTGAT TTCTCTTCCC TTATTACTTC CACCAGTCAT GGCATTGATA       4500

TAAAAAGGAA AGTCCCACTT TCGACCAGCA AACTCTGTCG AAAGATCGAT TTCATCCAGA       4560

TTGTAAAGAG GCAAGGAAGA ATGAATCAGC TCCACCTCAT CAAAGCTATT ATAGGAACTT       4620

TTCTGCTCAA GGGCATAGAG GATATGCTCG TCCTTACGAT TTGTCGTCAT GTCCTATCCT       4680

TTCTTGATAT AAGAGCTCAA TCCCCAGATC GGCCCAACGA TTTTTTAAGG TTTTGGTTGA       4740

TTGCGCATCA AAACTCAGGG CGATGCCACA GTCACCACCA CCAGCACCAC TACTCTTGGC       4800
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981

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GCGATCAAAT GACTGGTAGA GAACCAAATC CTCTGCCACA ATACAGGCAA GGTCGCCCAT    5220

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ATCAACAGAA ACATCATACA GAGCCAGTAA AGCCTTGACA ACCAAGACAA CGACGCTGCC    5340

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TTTCCAAAGT TAGAGAAATA CTGCTAGTAG CAGGCACCAT CTCTTTTTCT TTTTTCTTTC    6540
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982

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AGGATAACCG TAAACGACCG CATGTTCCCC TATTAAAATT ATCTTACTAT GTGCCTGACC    7440

GACACCAACT TTTTTTGTCA TTTTTTCCTT TTACTAGACG AAAAAACGTC TTATTTTTCA    7500

TACAAGTATT AATTCTTTCC TATCTATTTT ATTATATTTT CACAAAAAAA GCGATTGTTT    7560

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ATGAGCAACT ATTTTGGTTA CAATGTCTAC TAAATTTAAG TCAAACAAAT AATTTAGTCA    8340
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983

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TGTATGAGGT TGAAAAAAGA ATTGAAATGT CACATACAGC ACTGAGTTTT AAGAAAATATT    10080
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984

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TGTTTCTGAC GACCAGTATG ATTGCCATCT TGGATGTGTC CCCTCGGCTG ATTGCCCTCC    10200

GCTTCATCCA ACAGACACTA GCACAACTGA GCATTGGGCA ACTCCTCGCC CTGCTCTCCA    10260

TCATCATGTC TTGTGGAGCT ATCCTTGGCA ATATGACCAG CAGTAATCTA TTTAAAAATA    10320

TCCGTTTCAC GCACCTCTTG GTTTTCTGTG AGATTTCCCT ATTGACTCTA ATAACTAGTA    10380

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TCTTTGAGGT CCCCCTTTTT GTAGTAGGTT CTTCCGTTTT CTTGGACAAA CTGCCATCCT    11700

TCAGAATCAT CTGCAAATAC TGTACTGGTC CCTAGCAAAC CAAAGAAAAA TACTGTCAGT    11760

CCAACTTGCA TAGTTTTTTT CAAAATTTTC ATCTATATAC CCTCCAATAT TAAATCCACT    11820

CACCAGATGA GGCGAAATTA TAAACTTTAC CATCGATAGT TTGGCTACCT GTAACCATTG    11880
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985

CTCCAGG   11887

(2) INFORMATION FOR SEQ ID NO: 147:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11340 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 147:

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CCGGTATGTT CTGGAATACT ACCAATCTAA GCTGGCTGTG CCCTACAGTT TTACAACCCT      60

GTACGAATAC CTTAAGGAAT ATGACCGATT TTTCAGCTGG GTTTTGGAGT CTGGTATTTC     120

AAACGCTGAT AAAATATCCG ATATTCCTTT ATCAGTTTTG GAAAATATGT CTAAGAAAGA     180

CATGGAATCC TTTATCCTTT ATCTACGTGA ACGTCCCTTG CTGAATGCTA ATACAACAAA     240

ACAAGGTGTT TCACAGACAA CTATCAATCG AACCTTATCA GCACTTTCTA GTCTTTACAA     300

GTATCTAACC GAGGAGGTTG AAAACGATCA GGGGGAACCT TATTTCTATC GTAATGTAAT     360

GAAAAAGTT TCCACCAAGA AAAAGAAAGA AACCCTTGCT GCCAGAGCTG AAAATATCAA      420

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CCCACAACAG CTTTCAAATC GAGCTCTCTC ATCATTCAAC AAAAATAAAG AACGAGATTT     540

AGCCATTATT GCCCTTCTCT TGGCATCTGG TGTTCGCTTA TCTGAAGCTG TTAATCTAGA     600

TCTAAGAGAT CTCAATCTAA AAATGATGGT TATTGATGTT ACTCGAAAAG GTTGCAAACG     660

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TGCGACTAAA TCACAAGTTT TAGTCAGTCA CCAACTAGGA CATGCTAGCA CACAAGTCAC     960

TGACCTCTAT ACCCATATTG TTAGTGATGA ACAAAAGAAT GCTCTGGATA GTTTATGATT    1020

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TGGATTTTTG ATTCAGTAAC GTTAGCAAAG ACTTCAACCT TACCACTAGT GAATTTGATT    1320
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986

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TCTGGGTACT CTTTTTTCAT GTATTCCAAG AGTAAATCAC GGAATTTTTC GACTGTGATT   1500

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GATTCAAATT TATCTTTTGA AACCTTAAGG GCATTTGCGA GGACTGACAA ATCAACGTCA   1620

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987

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TCAAGCAATT CAGAACCATT TACCAAGACG TTCTTGTCTT TAGTGATTGT ACCAATTCCT    3180
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988

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AGAGATGGCA GCTTCAGAAA TCGGACAGTC ACGGACACGT TCTGGACCAA ATTCTTCAAG      6000

CATTCCAACA GAAGTACCGA AGTCTCCTCC GAAGACACCG ACGTCTTCTC CCATCAAGAA      6060

CACATTTTCA TCGCGACGCA TTTCCTCAGA CATAGCAAGG ATAATGGTGT CACGGAAGGA      6120

CATTGTTTTT GTTTCCATTT TATCTCTTTC TCCTTAGTCT GCGTAAATAT CTTCAAAGGC      6180

TGATTCAAGC GGTGGGAATG GGCTTTCCTC TGCAAATTTA ACAGAAGCTT CTACTGCTTC      6240

CTTTACTTGC GCTTGGATTT CTTCCAATTC TTCGGCACTT GCAATGTTAT TTTCAATAAG      6300

GTAATTGCGG AGGTTTTCGA TTGGATCTTT TTGTTTCCAC AATTCCACTT CTTCACGCGT      6360

ACGATATTTA CCAGGGTCAG ATGATGAGTG ACCGAGCCAG CGATAAGTTA CACTTTCAAT      6420

CAAGACTGGA CCATTGCCAC TGCGAACATG GTCCACAGCT TTCTGAAATC CTTCATAGAC      6480

ATCGATGACA TTGTTACCGT CTTCGATGAA CATTCCAGGA ATTCCATAAG CGGCGCTACG      6540

TTGATGGATA TGTTCTATAT TGGTCATTTT CTTGATATCC GCAGAGATAC CGTAACCGTT      6600

GTTAATGCAA TAGAAAATGA CTGGCAGGTT CCAGATAGAA GCCATGTTCA CTGCTTCGTG      6660
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989

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GAAAACACCT TCATTGGTCG CACCATCTCC AAAGAAGCAG ACAACGATTT TACCGGTATT   6720

TTGCATTTGC TGACTGAGGG CTGCACCGAC AGCGATCCCC ATACCACCAC CTACGATACC   6780

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TTTTTCACAA ACTTTTTAGC ATTTGGATTT TGCTAAAGAT TCAAATCTCT TCATAATCAC   7320

AGTTAAACGC CAACGGTAGA GCGCCCCGCT CACAATCAAA CTAATAATCA AGCCGATCCA   7380

GTAAGAATAA GCTCCAAAAT CTGTTAGGGA ATCAAATAGC GTAnCACAGG GATTGCTACG   7440

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ATAGATAAAA ACCAAAGATA GCGAACCGCT ACTGCCGCTA CTGCTGCTTC TAACCCAATA   8280

TGATTCAAGA TTATTGGTGC CAAGAAAAGT ACCATCCCCA GCAAGACCAC AGATAGGCCC   8340

AAGGCCAAAT AAATAAATTG GTAAAAATCA GACGCAACTT CTTCCTTTTT GCCTCGACCA   8400
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                                       990
AGATGGTGAC CAATGATAGG CACCAAGGCT GACACAATCC CTGTTAGAAA TGTAAAGAAA        8460

GGATTCCAGA TACTGGTTGC CATAGATACA CCAGCCAAGT CCATAGTGTT GTATTGACCT        8520

GTCATTGCAG TATCAACAAA AGAGGCAGAA TAATTGGCAA ATTGGTAGAT CAGGATTGGG        8580

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TGCTCTCAAG CGGAATACCG TCATCAGAGA AACCAACCGC ACCAGCTTCT AAGAGTGCCT        9780

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TAATCTTCTC TTTGGCAGCT GACTGGAGAA CTGCTTGCAA AGTCTCCACG TCTGAAATGG        9900

TTGGACTGGT ATTAGCCATC ATGACGACAG TAGTAAAACC ACCTGCAGCG GCTGCTAGGG        9960

CACCAGTATG AATGTCTTCT TTATGTGTTT GACCAGGTTC ACGGAAATGA ACATGAATAT       10020

CGACCAAGCC AGGAGCAACC ACAAGACCAG TAGCATCAAT CGTTTCTGCT CCTTCTTCCG       10080

TGATCTCAGA CGCAATTTTG ATAATTTTCC CATCTTGAAC TAAGACATCA CAAACTTGAT       10140

CCAAACCAGA CTTGGGATCC ATTACACGAC CATTTTTGAT TAGTAGCATC TGCTTTCTCC       10200
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991

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TTTATTCATA GAAATCAACT TGGGTATCCA ACAATTTATC CCCATCATAA ACAAACTTGG    10260

CTGAAAAGAA GGGTTTATCC TCTAAAAGCC ACTCAACAAA GGTGTGGTCA CCTTCCCAAG    10320

TCGGCTTGCT CAAAACCTCA TCATAGGGAA CCCATTCTAG CGTCCCCTCA TTGCAGTCAA    10380

TCAAGTCGCC CTCAAACTCC GTCACCTTAA AAACATAGGT GTACCAGTCT AAATCTGGTG    10440

TAAATTCAGG AAAAGTGATG ACACCTTTTA GAACTGGCTT GGCTTTGAGC CCTGTTTCTT    10500

CAAGGATTTC ACGCGCCGCG CATTCCTGGG GCGTCTCTCC TCTCTCTAGC TTACCACCCA    10560

CACCAATCCA TTTCCCTTCA TGGACATCAT TGGGTTTCTT ATTACGATGG AGCATGAGCA    10620

GTTCTTTCCC ATTATCAATG TAGCAAATCG TCGCTAACTG AGGCATATTT TCTCCTTATC    10680

TAAGCCAATC GATTGGCTCT TGTCCTGTCT CTTTTAAGAA TGCATTGGCC TTGGAAAAGG    10740

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TCAAGTGATG AGGATTGGTA ACTAATGCCT TCTTCTTACG TGCATAAGCT CCCCAGAGTA    10860

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CATCTGACAA TTCTTTCAAG ATATTTTGCA AGGATGGTGG AGCTGGGATA GAGTCAGGTA    11100

CAGAAAAACT CAAGCCCTGC GCTTGACCTG GTCCGTGATA GGGGTCTTGC CCTAGAATTA    11160

CCACCTTAAC TTCTTCAAGC AGTGTTGTCA AGAGAGCCTG AAAAACCTTT TCCTTGGGTG    11220

GATAAATAAT CCCCTGAGAA TAGACCTGCT CCATAAACTA ATTGATTTTC CCGAAATAAC    11280

CCTCAGGTAA TTGCGCCTTA ATCAAAGCAT GCCAAGACGA GTGTTCCATA GCCGACTCGG    11340
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(2) INFORMATION FOR SEQ ID NO: 148:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12127 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 148:

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AAAAAATAGA CTTGTTAGAC TATAAATGTA GTAAGCCTAC ACAAGAAAAA TACATAGAGA      60

TAAAGGTGAT TATTATGAAA TTCAAAAAAA TGCTTACTCT TGCAGCCATT GGCTTATCAG     120

GATTTGGGCT TGTTGCCTGT GGCAATCAGT CAGCTGCTTC CAAACAGTCA GCTTCAGGAA     180

CGATTGAGGT GATTTCACGA GAAAATGGCT CTGGGACACG GGGTGCCTTC ACAGAAATCA     240
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992

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CAGGGATTCT CAAAAAAGAC GGTGATAAAA AAATTGACAA CACTGCCAAA ACAGCTGTGA      300

TTCAAAATAG TACAGAAGGT GTTCTCTCAG CAGTTCAAGG GAATGCTAAT GCTATCGGCT      360

ACATCTCCTT GGGATCTTTA ACGAAATCTG TCAAGGCTTT AGAGATTGAT GGTGTCAAGG      420

CTAGTCGAGA CACAGTTTTA GATGGTGAAT ACCCTCTTCA ACGTCCCTTC AACATTGTTT      480

GGTCTTCTAA TCTTTCCAAG CTAGGTCAAG ATTTTATCAG CTTTATCCAC TCCAAACAAG      540

GTCAACAAGT GGTCACAGAT AATAAATTTA TTGAAGCTAA AACCGAAACC ACGGAATATA      600

CAAGCCAACA CTTATCAGGC AAGTTGTCTG TTGTAGGTTC CACTTCAGTA TCTTCTTTAA      660

TGGAAAAATT AGCAGAAGCT TATAAAAAAG AAAATCCAGA AGTTACGATT GATATTACCT      720

CTAATGGGTC TTCAGCAGGT ATTACCGCTG TTAAGGAGAA AACCGCTGAT ATTGGTATGG      780

TTTCTAGGGA ATTAACTCCT GAAGAAGGTA AGAGTCTCAC CCATGATGCT ATTGCTTTAG      840

ACGGTATTGC TGTTGTGGTC AATAATGACA ATAAGGCAAG CCAAGTCAGT ATGGCTGAAC      900

TTGCAGACGT TTTTAGTGGC AAATTAACCA CCTGGGACAA GATTAAATAA AATGTTTGCT      960

CCATAAATCT CTAAAGAGAT GCAGACGTTT CATCGTACAA TAAGATAAAG AAGGCAAGTA     1020

GGGAGGTGTC GTATCTCCCT TACTTTCTTC ACTAGAAAGG ACAAGATGTG ACAAAACAAG     1080

CCTTCAAAGA AGCAGTTTTT AGGGCAATTT TTTTCATGAG TGCAACAGTA GCTGTTGTAG     1140

CTATTTTGCT AATCTGTTTC TTTATTTTTA GTAATGGCTT ACCTTTCATA GCTAACTACG     1200

GCTTTGCCCG TTTTTTATTA GGCAGTGATT GGTCGCCAAC GAACATTCCG GCAAGCTATG     1260

GTATTTTACC AATGATCGTT GGTTCCTTAT TAATTACCTT AGGAGCGATT GTGATTGGGG     1320

TGCCAACAGG CATCTTGACA TCGGTGTTTA TGGTTTATTA TTGTCCAAAG CCCGTCTATG     1380

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ACCAGCCGAT TATTCCAAGT GGACTCTTTT CAGGAACCAG AACCTTAACA ACCAATATTG     1800

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TTCTCTTTTT CCTTATTCTC TTGATTAATG CCTACTTTGC CTACTTGAAA GGAAAATCAT     1920

CTTATGAGTA AATACCTGCT AAAACTTCTC GTTTATTGTT TTTCAGCTTT AACCTTTGGC     1980

TCTCTCTTTT TAATCATTGG TTTTATCCTC ATCAAAGGCT TACCTCATCT AAGTCTATCC     2040
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993

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CTCTTTTCTT GGACTTATAC TTCTGAGAAC ATTTCCCTTA TGCCAGCGAT TATTTCCACC      2100

GTTATTCTGG TCTTTGGTGC TCTTCTTTTA GCCTTGCCCA TAGGGATTTT TGCTGGTTTT      2160

TATCTTGTGG AATATACAAA AAAAGATTCC CTTTGTGTTA AAATCATGCG ATTGGCCTCA      2220

GATACCTTAT CTGGGATTCC TTCCATTGTT TTTGGTCTGT TTGGCATGCT CTTCTTTGTA      2280

GTCTTCTTAG GTTTTCAATA CTCTCTGTTA TCAGGAATCT TAACCTCAGT TATCATGGTG      2340

TTGCCAGTCA TTATTCGCTC AACAGAAGAA GCCCTTTTAT CTGTTAGTGA TAGCATGCGT      2400

CAAGCAAGTT ATGGACTTGG GGCAGGTAAG TTACGGACTG TTTTTAGAAT TGTTCTACCA      2460

GTTGCCATGC CAGGTATTTT AGCTGGAGTG ATACTAGCTA TTGGCCGTAT CGTTGGTGAA      2520

ACAGCTGCCC TCATGTATAC ATTAGGTACC TCTACCAATA CGCCAAGTAG TCTCATGTCT      2580

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AGCTTCACGT ATTTCAGATA AAACTGCTTT TTTCTTAACA GGAGAAATTT GCGAATTTGG      3420

AGATACCGTT GACGTGTTTA CCAATCCAAA AGATCAGCGC ACAGAAGACT ATATTTCAGG      3480

ACGGTTCGGA TAAGGAAGGA AAAACCTATG AGAAATCAAT TTGACTTAGA ATTGCATGAA      3540

TTAGAACAAT CCTTTTTAGG ACTAGGGCAA CTTGTCCTTG AAACAGCTTC AAAAGCCTTA      3600

CTGGCCTTAG CCTCCAAAGA CAAGGAGATG GCAGAGCTAA TTATCAATAA GGATCATGCT      3660

ATCAACCAAG GTCAAAGCGC TATCGAATTG ACCTGTGCCC GTTTGTTGGC CTTGCAGCAG      3720

CCACAAGTGT CTGACCTTCG ATTTGTGATT AGCATCATGT CTTCTTGTTC AGACCTTGAA      3780
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994

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CGTATGGGAG ACCATATGGC AGGCATTGCC AAAGCTGTTT TGCAACTAAA AGAAAATCAA       3840

CTAGCCCCTG ACGAAGAACA GTTACACCAA ATGGGTAAAT TATCCCTCAG CATGCTAGCC       3900

GATTTATTGG TTGCCTTTCC TTTGCACCAA GCCTCAAAAG CTATTAGTAT TGCTCAAAAA       3960·

GATGAACAGA TTGACCAATA TTATTATGCC TTATCAAAGG AAATCATTGG ACTTATGAAA       4020

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CGCTCGCTGA TTACATTGCT AACATTTGTG AACGCCTAGT CTACCTAGAA ACAGGAGAAC       4140

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GCCTTATTTG ATACAATCTG CCAGATAAAT CTGATACTCC CTGTTCCATA TAGAGCTAGA       4620

GGGCAGGGGA AAACATGCCT AACAGAATAA GTCACCTTAT TTTAAAAATC GAGCATCAAA       4680

CCAAGGGAGG AGTCTGCCCT TTTTTAGGAA AAAATCAAGA CAAATCTCCT CAATTATGTC       4740

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TATCAAGGAG GAAATCATGG AAAAACAAAC CGTCGCCGTC TTGGGGCCTG GTTCTTGGGG       5460.

AACCGCCCTT TCACAAGTCT TAAATGACAA TGGACACGAG GTACGTATTT GGGGAAATCT       5520

TCCCGAGCAA ATCAATGAAA TTAATACACA CCATACTAAT AAGCACTACT TTAAAGATGT       5580
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995

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CGTTCTAGAC GAAAATATCA TTGCCTACAC CGACTTAGCA GAAACATTGA AAGATGTGGA    5640

TGCGATTTTG TTTGTTGTCC CAACAAAAGT GACACGACTT GTTGCCCAGC AAGTTGCACA    5700

AACCTTGGAC CATAAGGTTA TCATCATGCA CGCATCAAAG GGATTAGAAC CTGATAGCCA    5760

TAAACGATTA TCAACCATTC TTGAAGAAGA AATTCCTGAA CATCTCCGTA GTGATATCGT    5820

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TGCTCGTGAG TTCAAAGGGG CTCGTTACGA TGTCGGAGAC AAGTTTGGCT TCATGAAAAC    7260

ATCCATCGAC TACGCCCTCA AACACCCACA AGTCAAAGAT GATTTGAAGA ATTACCTCAT    7320
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996

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CCAACTTGGA AAAGAATTGA CTGAGAAGGA ATAACAAAAT CATTTATATA AAGATTAGCC        7380

ACACATAAAT TAAGTAAATT CTCTACTTGA ATCTACCTAT TTAATAAAAA CTAATGAAAA        7440

CGCTATACTT GTATTTGTTT TTTCATTAAA ATAAGAGTAG AATAAATTAG TATAGTAAAA        7500

CAAAAAAGCA CCGAATCGGT GCGCACTTTT TCAAGTTGTG TACGGACAAA GCCTTATTTT        7560

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TGGATCATCA GAACAATATT CATCTAGCAA TTCAAACAGC GGAGCAAATA ATGTCTACAG        8580

ATATAAAGGC ACTGGTGCTG ACGGCTATCA AAGATACTAC TACAAAGATC ATAATAATGG        8640

AGATGTGTAT GATGACGATG GAAATTACCT TGGGAACTTT GGTGGCGGCA TTGCAGAACC        8700

TAGTCAACGC TAATAACTAT TTTAGAGCTG TGTTGTTTCG AATGGTTCCA AAACACATTA        8760

AAAGCTACTC ATTTTTTAAG TAGCTTTTTT CTTATTCAAG TTTACATATT ATACTCAATG        8820

AAAATCAAAT TCAAACCACG TCAGCATCGC CTTACCGTAG GTATGGTTAC TGACTTCGTC        8880

AGTTTCATCT ACAACCTCAA AACCATGTTT TGAGCTGACT TCGTCAGTTC TATCTACAAC        8940

CTCAAAGCAG TGCTTTGAGC AACCTGCGGC TAGCTTCCTA GTTTGCTCTT TGATTTTCAT        9000

TGAGTATTAG TCGTCACAAT CCCATTCCCT TGTAGAAAAG CAAAATGGCG AGTCCTACGA        9060

ACAAGACTAC CGCTCCTAAT CTCTGGCTGG TGTTATACAT CCGTTTTTCT CCTCTAACTG        9120
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997

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GAAAGATAAC TGCTAGAAAT GCGCCACCAA CTGCACCACC GATATGGCCT GCTAGGCTGA    9180

TTCCTGGAAT CAGAACACTT CCAATAATGT TAACCACAAA AAGTGTCAGA TAGGATTGCC    9240

CTAGCTGTTG GATATAAGGA TTGCGAGTTG CATAGCGAAG AACAATAATC GCGGCAAATA    9300

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ACCCAATATG AACAAAAATG GCAGACAAGA GACGCCAAAC CTGCTCGGGA AAGAGGCGAA    9540

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CTGCAGTGAC CAACATTAGT AAAAATACCA AGGCCGTCAC TAAGAGGAAG AAACTCGTCA    9660

CAGGGTAACG TCTATCAAAG ATTTCCTTCA TCAATTAATA CCTCCTGAAC AGGAATATCA    9720

TGGTTTTCAG GTATAAAGTC CTGAATTTGA CAAGGATATA TCGTACTCAA AGTACGACCA    9780

GAAAAATGTT CCAGATAGCG GTCATAATAG CCTCCACCGT ATCCTATCCG ATATCCTTTC    9840

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TCTATAGCCT GTTTTTGCTC TTGAGATATA GCCTTCATTT CATGCAAGAC TTGCTTGCGT    10200

AATTCCGATT TCATAGACAA GCCCTCTATT CTGCTGCCTT CTTTTTCAGG AAACTAGACA    10260

CCGCAGCCAC CCCAATAGCT AAGACTTCTT CCTTAGGACT CATTTGAGGG TGATGAAGAG    10320

CGTAGGGACT ATCGATACCT AGCCAAAACA TCACGCCATC AACCTTTGAA AGGAGATAAC    10380

CAAAGTCCTC GCCTGTCATA GCAGGTTCGA TATCAATCAA CTCGATTCCG TCTTTTTCGT    10440

CAAAGAAGTC CATCAGTTCA CGCGCCAAGG CTGGATTGTT CTCAACAGGT AGGTATCCAC    10500

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TTTTTACCCT CTTTTGCACC AAGAGACTCA TGTCCTGTGT CAAGGCACGA ATAGTTCCAT    10620

GTAAAAAAGC TGTGTCTGTG ATGACATTGT TGGTGGTTCC AGCTTGAAAA ACGCCGAAGG    10680

TCACCACTGC TCCCTCGATT GGGTTGACAT TGCGGCTAAC AACTGACTGC ACTTGGGTCA    10740

CAAAGTAACT AGCCGCCACC AAGGCGTCAT TGGCTTCATG AGGAAAAGCT GCGTGGCCAC    10800

CTTTGCCTTT GAAACGGATC TTCACCTCGC AAGTTCCTGC AAAGAGTGTA TGAGTATTAG    10860
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998

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TCGCAATCTG GCCGACTTTC AAATCTGGAC GAACATGGAG ACCATAGAAT TGATCTGGCA    10920

ACCAATCTCC AAAAGCACCG TCCTCATACA TGAGCATACC ACCAGCTTCA TTTTCTTCAG    10980

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AGCCTAAGGC AATGGTCATA TGAAAATCAT GGACACAGGC ATGCATGCGA CCTTGGTGTT    11100

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GAATCAAATC TAACATCTAT CTGTCCTCCG ATATAGCAGA AAGAGGCTGG AAAAAGGGTT    11400

CCGCCTCTTT TTTACTTTTA CAATTACAAG GTACGAAGCG CATCCTCTAG CGCTGTTTTT    11460

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TTCTTTTCAG CATTGGCGAT AAATTGGATA ATTTCTTGAG CGTTCATTTT TGTAGCAGTC    12120

ATAGGTG                                                              12127
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(2) INFORMATION FOR SEQ ID NO: 149:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12566 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 149:

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CCATCCTTCT GTTGATGTGA CAGGAATGAT GATAAATCAA CCAGTAGCTA GTCGCGAAGA    60

GGTGACAGAG GCTTTGAGTC ACTTGGCGGT AGAGCACAAT AGTCTCATTG CTCGTCGAAT    120
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999

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CGTTGAGCCA AATGAAGCTG GAGAAACACG CTTTACCTAT GCCACTTATG GTGAGGGAAA        180

GCTTCCAGAA GGTCTGACCA TTTCCTCCAA GGAGAGTGCA GAAACGAGTG ATTTATTAGG        240

GTCTTACTTG ATTGTATCAG GAAGTTTGGA TGGAGTGAGC TTACAGACCA CCTTGAAAGA        300

GCTTGGTTAT CAAGGCTTTG TTTCGAATGG AGAAGATCCA TTTTCGATAG TCTTACTATT        360

GACGGCCACC CCTATGGTGC TACTGAGTTT AGCTATTTTT CTGCTGACCT TTATGAGTCT        420

GACCCTGATT TATCGGATCA AATCCCTTCG TCAGGCAGGG ATTCGCTTAA TAGCTGGTGA        480

GAGCTTGTTT GGAGTTGCTC TCAGACCAGT GTTAGAAGAT GTGAGACAGC TTATCTGCTC        540

AGTGCTGGTA TCCAGTCTTT TGGGATTGGG GATTCTCTGG TATCAAGGTG CCTTGTTTAT        600

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TTCTACCTTA CTAAGTGTCG TCTATCTACT TGGTTTACAG GAAAATAGTC TGGTGGATCT        720

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GACATTTACT GAAGAACGGT TAGCCAATAC AGACTCTTTT TATATTATGA GCAATGTTGA       1020

CAATTTCTCA GATGGAGCAG AAGTGGACCT AGATGGCAAT CGTCTCAGTG ACTACACACC       1080

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TGAGCTTCAT GGCAAGTATT TACTGGCGCA AGGAGGAGTT CTCTTGCTTG GCCTAGTCCT       1800

ATCTAGTATT TTGACAAGAG ATGGTTTGAT TAGCGCTCTA GTTGTAGCTT TGTTTACGCT       1860
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CGATTTTCTC TGGTTTGAAT CTCAAGCTGG AGAAGGGCAA GGTTTATGCC TTAATCGGAA        2040

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GTGGAAGGGT TCTCTATCAG GGGAAAGATT TAAAAACCAT TCCCACTCGT GAGTATTTTC        2160

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CCACCGTTTG GTGCCAATTT TGGCAGATAC CCTGCGTGAT TTTGATAATG TGACCGTAGT        3300

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CCTGCCAATC AAGGTAGTGG CTAATTTGCC TTACTACATC ACGACGCCTA TTCTCATGCA        3420

CTTGATTGAG AGTGGCATTC CTTTTTGTGA GTTTGTGGTC ATGATGCAGA AAGAAGTAGC        3480

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GTATTACATG ACAGCCAAGG TTGCCTTTAT CGTGCCTCGT ACGGTCTTTG TGCCAGCGCC        3600

AAATGTGGAT TCAGCCATCT TGAAAATGGT GCGTCGTCCA GAGCCAGCCG TAGCAGTAGA        3660
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1001

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AGATGAGAAC TTTTTCTTTA AGGTTTCCAA GGCTAGTTTT ACCCATCGCC GCAAGACCTT       3720

GTGGAATAAC TTGACAGGTT ACTTTGGTAA GACTGAAGAG GTCAAGGACA AGCTGACCAA       3780

GGCTTTGGAC CAGGCAGGCT TGTCACCAAG TGTGCGTGGG GAAGCTCTCA GCTTGGCAGA       3840

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TTAAAGCCTT GGCAGGTTTC TACTATGTGG AGAGTGATGG CCAGGTTTAT CAAACACGCG       3960

CGCGTGGGAA TTTCCGTAAA AAAGGCCATA CCCCTTATGT TGGGGACTGG GTAGATTTCT       4020

CTGCCGAGGA AAATTCAGAA GGCTATATCC TCAAAATTCA CGAACGGAAA AACAGTCTGG       4080

TTCGTCCGCC TATTGTCAAT ATCGATCAAG CTGTAGTAAT CATGTCCGTC AAGGAACCTG       4140

ATTTTAACAG CAATTTGCTG GATCGTTTCT TGGTTCTTTT GGAGCACAAG GGCATCCATC       4200

CCATTGTCTA TATTTCCAAA ATGGATTTGT TGGAAGATAG GGGAGAACTG GATTTTTACC       4260

AGCAGACCTA TGGTGACATC GGCTATGACT TTGTGACCAG TAAAGAGGAA CTCCTGTCTT       4320

TGTTAACAGG CAAGGTTACG GTCTTTATGG GGCAGACAGG TGTTGGGAAG TCAACTCTTC       4380

TCAATAAAAT CGCACCAGAC CTCAATCTTG AAACGGGAGA AATTTCAGAC AGTCTAGGTC       4440

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CTTTCCCAGA GATTGCTACT GTTAGCCGAG ATTGTAAGTT CCGTACTTGT ACCCATACCC       4620

ATGAGCCGTC TTGTGCCGTC AAACCAGCTG TTGAAGAGGG TGTTATTGCA ACCTTCCGTT       4680

TTGACAATTA CCTGCAATTC CTTAGTGAAA TTGAAAATCG TAGAGAAACC TATAAAAAAG       4740

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CATCTAGTTG ACCAAGTTTT AGTCATGACG GTTAATCCAG GTTTTGGTGG GCAAGCCTTT       5220

CTGCCAGAAA CCATGGATAA GGTCCGTGAG TTGGTTGCTC TTCGTGAGGA AAAAGGTTTG       5280

AACTTTGAAA TCGAAGTGGA TGGTGGGATT GATGACCAAA CTATTGCTCA AGCCAAAGAA       5340

GCCGGTGCGA CTGTTTTTGT AGCAGGTTCC TATGTCTTTA AGGGAGAAGT CAATGAGCGA       5400
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1002

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GTACAAACTC TCAGAAAACA ACTGGACTAG GGTTGCAGTT TTTGCAGGCG GAAACCGCGG    5460

TCATTATCGG ACAGATTTTG ATGCTTTTGT TGGGGTGGAT CGAGGCTCGC TCTGGGTCTT    5520

GGAAGAAGAC TTACCTCTTG CTCTAGCAGT CGGAGATTTT GATTCTGTGA CGGAAGAAGA    5580

GCGACAGGTG ATTCAAAAAG GTGCCCAGTA TTTTGTCCAA GCACGACCAG AAAAGGATGA    5640

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TATTTTCGGT GCCTTGGGTG GCCGTATTGA CCATATGTTG GCCAATGTCT TTCTGCCTAG    5760

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GGCAGGATAG GCAGGAGAAA CACTTAAGTA AGAGCTTGGA GGATCAGGCA GATCATTTGT    6180

CAGACCAGTT GGATTACCGC TTTGACCAAG CCAGACAAGC CAGCCAGTTA GACCAAAAAG    6240

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1003

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AAAGCTTTAT GGACCAAAAA ATTGACGCGG TTATGACCGT AGCAACTAAG GGTGTGCCAC    8940
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1004

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TCAAGATTTT CACCGAATTG GGTCGTTTTA TGCTGGCACC TCACGGTGCT CTAGTCACAA      10260

GAGTCACTCA TAAGAAGGAA ACCTACCGTA CCTATCTAGG TGTGGATGCC TCAGCAGTCA      10320

ACCTCATGCG TCCAGCTATG TACGGAGCTT ACCATCATAT TAGCAACGTG ACCCATCCAG      10380

ATGGACCAGC TGAAGTGGTA GATGTGGTCG GTTCACTCTG TGAAAACAAT GATAAATTTG      10440

CAGTTAATCG CGAACTGCCT CATACAGAAA TCGGTGATTT GCTGGTCATT CATGATACAG      10500

GTGCCCACGG ATTTTCAATG GGCTACCAGT ATAATGCCAA ATTACGTTCT GCGGAAATCC      10560

TCTATACCGA AGAAGGTAAA GCCCGTCAAA TCCGCCGTGC AGAGCGCCCT GAGGACTATT      10620

TTGCAACCTT ATATGGCTTC GATTTTGAAG AATAATCTGA TAATAGATTG AAAATGAAAT      10680

TGAAAAACAG ATTGCTTTCT AAAAAATAGG CAAAAATCTT GTTTTTCCTT CAAGTCGTGA      10740
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1005

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TATAATAAAA CTATAAAACG TTTTCAAGGA AGGTAACGAT ATGTCTGAAG AAACAATTGA    10800

TTATGGACAA GTGACAGGAA TGGTGCATTC GACAGAAAGC TTTGGGTCAG TAGATGGGCC    10860

TGGTATTCGC TTTATTGTCT TTTTGCAGGG CTGTCACATG CGTTGCCAGT ATTGCCACAA    10920

CCCAGACACT TGGGCTATGG AGTCCAATAA GTCACGTGAA CGGACGGTAG ATGATGTCTT    10980

GACAGAGGCC TTGCGCTACC GTGGTTTCTG GGGAAATAAG GGTGGGATTA CAGTCAGTGG    11040

AGGAGAAGCT CTCTTGCAGA TTGATTTCCT GATTGCTCTC TTCACCAAGG CTAAGGAACA    11100

AGGAATCCAC TGTACCTTGG ACACCTGTGC TCTTCCTTTC CGTAATAAAC CACGTTACCT    11160

TGAGAAGTTT GACAAACTCA TGGCTGTCAC TGACTTGGTT CTTTTGGATA TCAAGGAAAT    11220

CAACGAAGAA CAGCACAAGA TTGTCACTAG CCAAACCAAT AAAAATATCT TGGCTTGTGC    11280

CCAGTATCTA TCAGATATTG GAAAACCTGT CTGGATTCGC CACGTGCTAG TTCCAGGATT    11340

GACAGACAGA GATGATGACT TGATTGAACT TGGTAAGTTC GTCAAGACCC TCAAAAATGT    11400

TGATAAGTTT GAAATTCTAC CTTATCACAC CATGGGTGAG TTCAAGTGGC GTGAACTTGG    11460

AATTCCATAT TCCCTCGAAG GAGTCAAACC ACCAACAGCA GATCGCGTCA AGAACGCTAA    11520

ACAACTCATG GATACCGAAA GTTATCAAGA TTATATGAAA CGTGTACATG GATAGAAAAG    11580

AAGCCTGATG GAAACATCGG GCTTTTGACT TGCAAAAAGA CTTAGCAAAT CAGCTAAGCC    11640

TTTTTCTTCT TATCTCGAAC GTTGTTTTCC AGCGTTGCGA TTTTTGTGTT TTTTCTTGCT    11700

TGTGATAGCA GTTGGTTGTT CAGGGGTAAC GTCTTTTCGT CCACTTGGTT TAGAGAAAGC    11760

ACTTGCTTTT GGTGGGTTCT TGGCTAGTTC TTCACGGACT TTTTTGCGAA GTTTTGGACG    11820

AACGATATAG TTGACGATAA ACTGTTGGAG AATCATCATG AAACCACCGA CAACCCAGTA    11880

AAGTGTGACA CTAGCTGGTG AGAAGAGGGA GAAGACGACG ATCATGAGTG GGCTCATGTA    11940

AATCATTTTC TTGATTTGTT CTCTTTGCAT TTCATCTTCT ACTCCGTGAA GTGAAAGGAG    12000

CGATTGAAGA TAGTAAAGGA CACCAGCACA GGCAACCAAA ATCATACTTG GAGAACCTAG    12060

AGGAATGCCT AGGTAGCTTG CTTGAGCAAC CCCTTCAGTA TGTTGGGCAG CAAAGTAGAT    12120

AGCAGAGAAG AAAGGCATTT GAAGGAGGAT AGGGAAACAT CCTACACCGC CAAACATGCT    12180

GATACCGTGC TCTTTTTGAG CAGCAAAGAG AGCTTGTTGG GCTTCGAGTT TTTCTTCTTG    12240

AGTAGTCGCT TCTTTGAGAC GCGTTTGGTG TGGCTCAAGG ACGTGCTTGA GGGCGTTCAT    12300

CTTTTCAGAG TGAAGCGTTG CCTTCCATGA TTGGTAGATA CCAAGTGGTA AGATAATCAA    12360

GCGTACGATA ATGGTTACGA TAATGATAGC GACACCAAAG CCTAGACCTT TATCAGTAGC    12420

GAAGTACTTG ATGGCTTCAG CCATAGGCGC TCCGATCGTA TTCCAAATAA ATCCTGTTGG    12480
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1006
CTGACCTGTG GTTTTATCGA CATTGACACA GCCAGTCAAG ACAAGCAACA TAGCCACTCC   12540

CATAGCCGAG AGTGCAAAAT CGGGGT   12566

(2) INFORMATION FOR SEQ ID NO: 150:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 5238 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 150:

TGACACTCTG TAGGATTGTC GTTAATTGAT TGCTCGTACT CTCTACAATA ACCACCAAAG   60

TAAAAACGAC ATAGAAAGAT AGCATCAGCT GTAGCCATAG CGCCTTTGAC ACCTTCTGGA   120

TGATTATGAG TTACCTCTGC AGAAAGACTC GTAAGTCCTC TAGATGATGG CCATATACCA   180

GTTTTCGCAT AAAAACCACA GTCCATGATC CAAGCACATG GAGAAATACG CATAGCTGAT   240

CCATTCCCAA AGCTATTATA AGGCTCACGG TTATCGCTGT TTAGCCATGC ATTAAACCGA   300

GCACCGTAAT CAGCATTCGG ATACATTCTG CCATATTTCT TCATCGCGTC AATGAAGTCA   360

TCTTTTTGTC CACCATTCAT AATTGCTTCT GCAACAGCAC AGGTCATAAC CGTGTCATCT   420

GTAAAAAAGC AGTCCTTCCG AAATAAAGGA AAGTCCTTTG TTTTGATATT GTTCCATTCG   480

TAAACAGAAC CGACAATATC TCCAATAATT GCTCCAAGCA TCAGATTCCT CCTTGTTCAT   540

TTTGATGCTT TTTATATTGG TTATCTACCA TATTTATTTT AGAAAATAAC ATCCTGTTGG   600

ATTTTAAAAA TTTCATTTTT TTCAAAATAG GGTTTTACCA TTTCTTTCCA CCTAGCTCTA   660

TGAAAATTGA TTGATTTTAA AGGAGATAGG CCATAATTTC CCAATGCATA ACCATCATTT   720

ACTTCAACAA CAAGTGTTCT GCCATCGCGA GTAACACCGA TATCTAGTCC ATAAGCTATT   780

GGCGCATCTT TCCAACATGA TATCGCTTCA TCAATTACAC TTGCATCAAA TTGTGCATGA   840

TAATCACCTG TATAGGGTCG AACATCTAAT ACGCGACCAT CTAACACAAA ACAACGCCAT   900

TCAGCTATGA ATTCTACAAC CTCACTAATC CATATAGGAT AGTCGAAAGG TAGACCAATA   960

CCTATTAAAT CATGGGTTCC ATTAACAACT CTTCCAGTAA AGACTTTTGA ACCAGCTTTA   1020

GGCTTAATAA ATTTTCCCCA ATTATCAGGT ATATTCACAA TCTCTCCTAA AATACCAGCA   1080

TAAATCTTTC GACCATAAAA CTCTTTAAGC TCAATAGGAT AGTCATGAAC CGGAACGTTT   1140

AAGCCCATCA TTTTTAGTAA TGCTCTAGTC TCCATTATAT AATCTACAAC TATATCTTCA   1200

CTTGTTAACT CTTTTATTTC AGAAAAAGAT TGATATAAAA TAACTTCTTC TCCTTGTAAG   1260

TAGGCACCTA CTTGAGCATT GTATTTATTA ATTGAAACCT CACTTGGTAA TTTACTTTGT   1320

1007

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ATCAACGGTA TTTAGGAGTA ATTCAATAAC CTGGGACTTT GTTAGTCGCA TTCCCCTTCT   1500

ATCTCTAGCA TCTTCTACTA AATTTTCAAG TTTCTCTAGA TTTTTATCAT CCAAGCTAAT   1560

CATTATTCTA TTTTTATCGG TTGCCATTTT CATCACCTCA AGTTAATTCT ATCACAGGTG   1620

TAACACTAGT GTCAACTGGC TTTTATAATA CATTAGTTTA AAAGTGGAGA GGATTTTTAA   1680

CACAGTAACT TTAAATCTTT GGTATTAAAA AATTTTCACA ATATTTATAG AAATAAAATC   1740

TGTCTCAAAT CAGTTATCAA ATCTAGTATA AATTATGAGC GGCTACTCTA ATACTTTCCC   1800

TCTAAACAAG AAAAAGACTT ACACTCAAGG GTTTTCTTCC CCCCCTTCGT TATAACGTTT   1860

TGACTCTTTT ACTAGCAAAG GTATATACTC ACAAGGAACT TTGGTTGACT ATTGAATCTC   1920

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GTGACACAAG AAATGCCAAA CTTCGATCCC TTTTTTTCTG TAAAGAATCG CTTCACCGTC   2040

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AATCTCTTTC CAAATAATGT TTACATTTTC CTCAGGATCG AACATAAATT TAGATAAAGG   2280

AACAATATTT CCGTTAAAAA TAATTTCCAT ATAATCCGGT ATGTTTTTAG GATTAAAATA   2340

CTCCACTTCA AAACCATCTT CTGTTTCCAG AGTGTATCCC GGGATTTGAG CTACAAAGGC   2400

TTTCCCATCT TCTATGGAAT CAAATGCTAC TAAATCTTTA GAATAATCAT TTTGGTACAA   2460

TTCCAATATA ACCATCGATA ATCTCTCCAT TTTCATTATC AGGCTAATGT AAATAAGCAC   2520

GTCACCTGAC CAATTCAGGC TCTCTGTATC ATCTCATCAT ATTTCCTACT TACTTTACGA   2580

GTCTTATACC CAGAACACAC CTTATCGACC TTCGGTCTCA CCTCGTCGCA TTGGCTGAAC   2640

ATCTACTTTT ACTTTGCTGA TGCTTCAACT CGTACAAGCA GTGATACCGC CTCAGCGTGA   2700

TGCGTCAGTG GGACTCAAAA GGTTCGGGGA ACCTTTTGAG GATTAACTAC GTTTCTCTAA   2760

TAAACTTACA CATTCAACTT GTTCATCATT GTCCAAACCT ATGTTGAGAT TTTCTTCTAT   2820

AATTGGTAGC TTAAAAGTAA TGGATTTTAG CCATTGTCCG TTAGATTGTT TTTCTTCATA   2880

AACTTGAATT TCAGAAATCA AAGCTGAAAT TAACTGCCTA CGCTCTACAT CATTCATGAC   2940

TTTATAGAGC TTATCAAAAT AGATCAGAAC CTTATATATG TTATCTCCTG TAAGCTTTTC   3000

AGCTTCAATA GTCTGTTTCT TTGCTTTCGC ATCAATTAGT GATGATTCTA ATTCATCTAG   3060

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                                    1008
TTTGTCATAC ATACGATATA GTCTATCATC TAAATCCTGT TTCCTTCTCT TATAATGCTT      3120

ATCTTCAACA TCTAAATTAT CTATTTCCTC AATTAGCTTA AACTTTGTAG AATGACTCTT      3180

TCTCAATTCC TTTTGGTAAT TATCTATTTC TTTTTCTATT TCAGAGGTAT CCACCTTCAT      3240

GTTGATTTTT TCTTGCATCA TAGAAGCAAA TTTCGGATTA CTTACTATCT TGACAATCAC      3300

CTCTGCAACA GCATCATCTA ACAATTCTTC TCTAATTTGC TTACTGAATG TACACTTATT      3360

ACCTCTTATC ATCTGCCTAT GGTTACAACC ATAGTAATAA AAATCTTTAT ACTTTGTGCC      3420

ATCTTTCTTT TTCTTGATAC ACTTGTTCCC AAACATTCCC ACTCCACATA TCGGGCATTT      3480

TACAATTCCA GAAAGCAAGT GTGTGCGTGT ATCTTTTCCT TTATTCACAT GCTCATATTT      3540

CTTTGCTTGA GATTTTAGCT TAACCTGAGC AGCTTGCCAA ACTTCATCGG AAACTATAGC      3600

TTCATGTATC CCTTCAGATA TTAGATATTC ATCTTGTTCA ACCTGCTTAT ATTCATTTCT      3660

TGTACCATGA ACTTTTTCTA AAGTTCTTCT TCCAAATGCT ATTTTCCCAT TATATACAGG      3720

ATTCTTTAAT ATCTTTCTTA TAAGACCTGC ATCAAACAAA GGATTCTTAC CATTCTGTCT      3780

TGGGATTTTT CTAATTCCAT GATTCTCTAA GTATTTAGAT ATCCCATTGG CTCCTATCGT      3840

AGTATTTACA TACTGGTCGA AAATCGTTCT TATTGCAACT GCCTCTTCCT CATTTATAAA      3900

CAGCTTGCCG TCTTCAAGTT TATATCCATA CGGAGCAAAG CCACCATTCC ATTTTCCTTC      3960

CCCTGCTTTT TGAATGCGAC CTTCCATTGT TTGAATACTG ATGTTTTCTC TTTCTATTTC      4020

AGCCACAGCT GATAAAACAG AAATCATTAG TTTCCCAGCA TCTTTAGATG AATCAATGCC      4080

ATCTTCAACG CAGATAAGAT TAACTCCATA ATCCTGCATT ATATGAAGTG TAGAAAGAAC      4140

ATCAGCGGCA TTTCTTGCAA ATCTTGATAA CTTAAACACA AGAACAAAAG ATACTCCATC      4200

TTTTCCAGAT TTTATATCTT CCATCATTCG ATTGAACTGT ATTCTACCTT CAATAGACTT      4260

GTCAGACTTC CCGGCATCTT CATACTCTCC AACAATTTCA TAATCGTTGT AAATAGCAAA      4320

AGCTTTCATT CGTGATTTTT GTGCCTCTAA CGAATACCCC TCTATCTGTA TTGACGTAGA      4380

TACTCGTGTA TAGAGGTATA CTTTTATTTT TTCTTTTGAC ATAGTATTAA CCTCAATATA      4440

ATTTTTCTAT ATCATATATA ATTTTTTTAA TTTAAGTTTG GACTATCATT TCAAGTATAT      4500

TATAACACTT TTATTAGTCC GTCTCAATTT GTGTTTTTGC CATGTCAAAA CTATTTTTCA      4560

TCTCTTGATT TTTTGCTGGC GTTGGATCGG GTAGATTATC TAAATCTAAA GCACCAGCAT      4620

ATTTTGCAAT CAGATTTGCT ATTAAATCAG CCAATCCATT CCAGTCATTG TCCAATATAT      4680

ACCTCCTCTA AAGTTTTATA TCTAATAATT ATTTGTTTAA TTAAGTTTTT TGACATTGAC      4740

AAGTGCTTTG GATTAGCAAC ATAGGAATCT CACTTCCGCC TCTATTCCGG ATGAGCCGGC      4800

TTCAACCTTA GAAGTATCAT TACCCTCATT TTCTTCATAG CGGATAGGGT ATCCCTCCCT      4860
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1009

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ATATTCAAAC TCTTACTTAT CGCTCACTTT CTTTTTGCTT AGCAGAACTT TTTTTGCCGA      4920

ATTATTCAGC CGAAAGATCT TGACGGATAG GTTATTACGC TCCAAAAATA ATTAACGTCT      4980

TGTCTTGGTC TATTCAATTG TTAAGGTTCA AAATTTATCG AGAGTTATTA ATCTTTTTAA      5040

AATTTGACCA TCAGAAAATA TTTATCTTGA TGTAACAAAA TTCTATAAAT TACCCTCTTA      5100

TACTTAACAG TGAAAGAAG TCTTTCTTGG TAACCAATTT TGAAATAGAA TTTGCTTATA       5160

TAAAAAGGTC CAATTCCCAC TGCATAAATA GCAGTGAAAA TTAGACCCTC TTGGTAACTG      5220

TCATCTAAAA GTCTTCTA                                                    5238
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(2) INFORMATION FOR SEQ ID NO: 151:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 13425 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: double
           (D) TOPOLOGY: linear

       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 151:

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GACGATTTAC GAAGAATCGA ACAAGAACCT GCTCCTATCA ATTCCCAACC TCTATCTCTA        60

AAATCTTGCA GTTCATGCTT ATACTTTTTT AAGAAATCTA GAATCATAGA TACGGTAGAT       120

GACATCGTCT GGTTGACATT GGTCAAAATA GAACAAACCA AAACGACTCG TTCTATACCT       180

CCAACCTTTC AAATGCATCT CATGTAAATG TTCTTCTTCC TTGTCCAAAT CAACAATGGT       240

GAAAATCCGA AATTCTACTC TGCTATTCAT TGTCTTACCC CAAAATTAGA AAACATGCCT       300

GGCGTTATTT ATTAGATAAT TCTTTCCACT TTTGACTCAA TCTCCAAAAA ATATAAGAAA       360

TCTGAATCGC AAAAACTATC AATAAAACCC AATCTATTAT GAAAATCAAA AACACTTTCC       420

AACTGAAAGA ACTACCTCCA GTGACAAACT TTGAGAAAAA CGGTAGTAGA GCTAAAAAGA       480

GAAATAAAAT AGGAAGCATC CGCATTGTTA AAATCCGTTT GGCATAAAAA AATCTTTATT       540

TAAACGAAAA TATTATGGCA AAATTTACGC CAGTTTTTGA ACGGCTGATG TAGATATTTT       600

ATACTTTCAA AATGTTTAAA TGTGATTATT TATTTTTGAA AAATAGATCA CCAGCCCGAC       660

TGAAAGTGCT TATAGAATGA TAATAAGTCG CCTGCCGAAA ACAGCGAAAA ATAGCGGTGT       720

TATGCGGAGA TAATCTGACG CGATGCGAAA GTATATTGCA TACTTATTTT CAACAATTTA       780

GCAGAGTATT TTTATAAGTG TGATATAATA GAAGTATAAT TTGTTCTGAT AGTTTATTTT       840

ATGGAGAAGT AGATTTTTAG AATGCGGAGG GTTCAATATG GTTGAGTTTA TAAAGTCTAA       900

GAAAGAAATG AGTGAGGAGG ATATTAAAGC AAATTTCATC ACTCCTGCTA TTGTATCCAA       960
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                                    1010
AGGATGGAAA AATGGTGAGC ATATCGCTTA CGAAGAATAC TTCACTGATG GTCGAATTGA    1020

AGTTAGAGGA GATAAGGCTC GTCGTAAAGA AGGAAAAAAA TCAGACTATT CACTGTATTA    1080

CCAATTTGGA ACTCGAATTG CAATTGTTGA GGCAAAGGAT AATAAACACA GCGTTCGAGC    1140

AGGATTACAA CAAGCTATTG AATATGGAGA GATTTTAGAT GTTCCATTTG TTTATTCTTC    1200

GAATGGTGAT GGCTTTATTG AACACGACCG TATCACGAGA GAAGAACGTG AGCTGGAGTT    1260

AGACGAATTC CCTACTCGTG AAGAATTATT TTCTCGTATG ACGAAGGAAA AAGGATTGAC    1320

GTACGAAATT ACAGAAGCTA TCTCAACTCC ATACTATACA GACGCCTTCT CAATGAAAAC    1380

GCCACGCTAT TATCAGCAAA TAGCTATCAA CCGTACTATT GAAACAGTTG CCAGAGGACA    1440

AAAACGAGTA ATGTTTGTGA TGGCAACAGG AACGGGGAAA ACGTTCATGG CTTTTCAAAT    1500

TATTCATCGC CTTCGAAAAG CTGGTTTGGC TAAACGAGTT TTATTCTTAG CAGATAGAAA    1560

CATCTTAGTA GACCAAACGA TGGCTGAAGA CTTTAGGCCA TTCGAAAAGG TAATGACGAA    1620

AATTACACCA AAACTTTTGA CTGCTCCTGA AAAATTAAAT TCTTTTGAAA TTTATCTAGG    1680

GCTTTATCAG CAACTAACTG GTGAAGATGA AACTGAAACA CATTATCAAA AATTTGACAA    1740

AGACTTCTTT GATTTAATCG TAATTGATGA AGCGCACCGT GGTTCAGCTA AGGAAAACAG    1800

TAACTGGCGT AAGGTAATTG ATTATTTCAG TTCTGCGACA CAGATTGGGA TGACCGCTAC    1860

TCTTAAAGAA ACCAAGAATG CTTCCAATAC GGAATACTTT GGTGAGCCAA TCTATACTTA    1920

TAGTTTAAAA CAGGGAATCG AGGATGGTTT TTTGGCTCCA TATCGTGTTA TGAGGGTTAA    1980

TTTAGATGTG GATGTGGATG GTTATCGTCC AGAAACTGGA AAAGTTGATG CTAACGGACA    2040

ATTAATAGAA GATAGGTACT ACGGCAGGAA AGATTTTGAT AAAACCATTG TCATTGATGA    2100

TAGAACGCAA AGAGTTGCCA AGTTTGTTTC TGATTATATG AAGCAAAACA ATGCACGATT    2160

TGATAAAACA ATTGTTTTTT GTGTTGATAT TGACCATGCC GAGCGAATGC GTGCTGCACT    2220

TGTAAAAGAG AATCTAGACT TAGTCCAAGA AGACTATCGT TATGTCATGC AAGTAACTGG    2280

TGACAACGCT GAAGGAAAAG CTCAACTGGA TAACTTTATG GATGTCAATT CTAATTTTCΞ    2340

CGCTATTGTA ACAACGTCTA AATTATTAAC GACAGGAGTT AATGCTAAAA CATGTCGTTT    2400

GATTGTTTTA GACTCTAATA TCCAATCCAT GACTGAATTT AAACAAATTA TTGGTCGTGG    2460

CACACGTCTT TATCCTCAAA AGGGGAAAGA ATTTTTTACG ATTATTGATT TTCGAAATGT    2520

TACCAATTTG TTTGCTGACC CTGATTTTGA TGGTGATCCA GTGAAGGTGC TAGAAACAGG    2580

TGCGAAAACA GTCAGTGGTT CTACGCCCGG TTTCGTAGAT GAGGAAGGTG ACCCAGTAGA    2640

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TGAAAACGGG AAACTGATTA CCGAAAGCCT GACCGACTAC ACTCGAAAGA ATATCTTAGG    2760
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1011

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TAGCTACGCC ACTTTGAACG ATTTTATCAC AGTTTGGCAT ACGGCAGATA AGAAGAAGCT      2820

TATCTTAGAC GAACTTTATA AAAAAGGAGT TTATCTAGAT GCTATTCGAG AGTCGGAGGG      2880

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AGAATTAACC AAAACGGAAC GTATCAATAA ACTCAAACAA AGCGGATATT TATATAAATA      3000

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CTTCAAAATC ATCAATACTT ATTTTGGAGA TAAAAAACGA TATTTACAAG CAATTAAAGA      3180

ATTGGAGCAA GAGCTATTTA CAGTAGCTTA ATGAAAGGAA AGTATGTCAA TTACATCATT      3240

TGTAAAAAGA ATTCAAGATA TCACTCGAAA CGATGCTGGT GTTAATGGTG ATGCTCAACG      3300

TATTGAGCAA ATGTCTTGGT TATTATTCTT AAAAATTTAT GATAGCCGTG AAATGGTTTG      3360

GGAATTAGAA GAAGACGAGT ATGAGTCAAT TATCCCAGAG GAATTAAAAT GGCGAAATTG      3420

GGCTCATGCT CAAAATGGGG AACGGGTATT GACAGGCGAT GAATTACTTG ATTTTGTCAA      3480

TAACAAGTTA TTCAAAGAGT TGAAAGAGCT TGAAATAACT TCAAATATGC CTATTCGAAA      3540

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TATTGAAAAG AAAGCATTTC CTCATCTTTT AGCAGTTACA AATCTGTTTC TTCACGAAAT      3960

TGATGACCCT AAAAATTGTTC ATGGAAATAC TTTGGAGAAA AATGTTCGTG AATATACGGA      4020

TGATGAAAAA TTTGACATTA TTATGATGAA TCCACCTTTT GGAGGGTCAG AATTAGAAAC      4080

AATAAAAAAT AACTTTCCAG CAGAATTACG GAGTTCTGAA ACAGCTGATT TATTTATGGC      4140

TGTCATTATG TATCGTTTGA AAGAAAATGG TCGTGTTGGA GTTATTTTAC CTGATGGTTT      4200

TCTATTTGGT GAAGGTGTAA AAACTCGCTT GAAACAAAAA CTGGTAGATG AGTTCAACTT      4260

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CATTCTTTTC TTTGATAAAA CAAAGAAAAC AGAAGAAACT TGGTTTTATC GTTTAGATAT      4380

GCCAGATGGT TATAAAAATT TCTCGAAAAC TAAGCCGATG AAGTCAGAAC ACTTCAATCC      4440

TGTTCGTGAC TGGTGGGAAA ATCGTGAAGA GATTCTGGAA GGTAAGTTCT ACAAATCTAA      4500
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1012

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AAAAGAGGAA GAGGAAATCT TAAATCCCTT TGAGTTGATT CAGAATTATC AAGCGGAAAG    4620

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CAAATAATGA CACCAGAACA ACTTAAAGCA AGTATTCTCC AAAGAGCGAT GGAAGGGAAA    4740

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GAAAAAGAAA AACTTATCAG TGAAGGAAAA ATCAAACGAG ATAAAAAGGA AACTGAGATA    4860

TTTCGTGGTG ATGATGGGAA ACATTATGGG AAGTTTGCTG ATGGAAGCAC TCAAGAAATT    4920

GATGTTCCTT ATGATATTCC TGATACTTGG GAGTGGGTGA GGTTTTCTAC ATTGGTTGAA    4980

ATTGTCAGAG GTGGCTCTCC ACGACCAATC AAaGATTATC TTACTTCTGA AGTAGATGGA    5040

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GGATTTATTT TCCAATTAAC ACCATTCGAA AGTTCAGAGA TTATTTCAAA ATTTCTATTA    6060

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CAAGCTTTAT ATAATATTCC TAAAACTACA CTGAGCGAGC TATTAATTCC GTTAGCTCCT    6180

TTTGAGGAAC AGGAACTTAT TACTCAAAAA GTTGAGAAAC TTTTTGAAAA AGTAAATCAA    6240

CTTTGAAAAT GATTCTTTTC ATCTCTTCAT GATTAGAAAT AGGGATTAAT AATTCGGAGA    6300
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1013

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TACTGGTACT ATTTAATGTT TTCCCTTTGA TAGCATCTTT TGAATCACCT AAAGTAGAGA      6360

TAAGTGGCAA AAATATCATT AAGTAATCTC TGATAATATT TTCTTTATTA GCATAGGGGA      6420

ATATCGATAT AATGGCTTCA TTATGAGTGG CAGGAATATC CAATATGGCA ACTTTTCCAA      6480

TAGATAATTT AAAACTCATT AATAAAGTTC CTTTAGGTGA AATGTCTATT TTCTTTGATT      6540

TTAATGCTAA TTTAGAAATA GATTCTCTCG CATTAGTTAC ATAACCAGAT ATAGGCATAT      6600

CTGATATAGA TACCCAAGGT ATTTCAGTTC CCCAAAAAGT AGCTTCACTG CGTGGAGGAG      6660

TTTTTCCTAT TCTGAAGTTA ACTAGGCTAG CAAATTTAAT ATATCTCCAT GCTTCTGGGA      6720

TTTCATATAT AGGATAAGAG GTTGTTTCGT CTTTGTTCCC ATAATAAGAG CCATAATCAC      6780

AAAAATAGCA GGTAGTCAGT TTGACCACCT GTTATTTTTT ACCAATTAAC AATTTTATCT      6840

ACAATATTTT GTTGTTCAGT AGCTGTTTTC CTTAGATAAA TTCGAGTAGT TTCTATACTT      6900

TCGTGTCCCA TCAAATCTGC AAGCAAGGCA ATATCATTAT ACTTCGCTAA AAAATTCTTA      6960

GCAAATAAAT GCCTAAAAGA ATGAGGGTAA ATTACGTTAG GATTCATTTT GTATTTATCA      7020

GCATAATTTT TTAACTGTTG AGCAACTCCT CTTGCTGTAA TTGGTTCGTT AAATTTATTC      7080

AAAAATAAAT AACCACTTCG GCGATTTTCT GATTCTAACC AACTAAGACA ACTATTTCTT      7140

AATTTTTTAG GAATGTACAG TCTACGAATT TTACCACCTT TTGAGTAAAT GTCAAAATAA      7200

CCGATTTCTA CATGCTCTAC TTTTAGTTTA ATAAGTTCAC TTACACGAGC CCCAGTTGCA      7260

CCTAAAAACC AAACGACAAA ATGCCATTTT AAAATACCAT CTTTTTTCAA ACTACGTTTA      7320

AGAAAAAGGT AATCAGCATG GCTAATGACA TCTTCTAAAA ACGGTTTTTG CTGTACTTTG      7380

ACAAATTTTA ATTTCAAATC ATCATGACCA ATAAAAGCCA GATATTTATT TACTCCTTGT      7440

AGTCGCAAAT TGACAGTTTT AGGTTTAAAA TTGTCTAATA AATATCCTTT GTATTCAAAT      7500

AAATCTTCCA TTTTGAGTTC GTAATTCTCC AAGAAAAATC GAACACCATA AAGGTACGAA      7560

CGCACAGTAT TTTCAGCTAA ACCAGCTTTC TTCAAATGTA ATTCAAAATC TTTCAACGTA      7620

AAACTCCTAT CTTATGTTTG ATAGAAATTC CACCGCACGT AAAACTATTA TACTAAATTA      7680

GTGCGTCAAT ATGGGCGAAA AATTGTTCGA TTTTATCAAC GATTCTGGAT TGTTCAGGAA      7740

GGGGTGGGAG GGGGATTAAA TATTCTTTTA TAGTTTTCGT TAATAATTCT TTTTGTTTTG      7800

TACTACCCGA CGCTTTTTCT TCAATAACTG ACTGAACAAT AGGAGAGGAA AGAAAATTAT      7860

AGATGAAATG GCAATTAATA ACCCCCGATA AGACTCTTAT AACTGTAACA TGGCTATCTG      7920

CAACAGCCCA GCCATAAGGA TTTTTATTTT CATGGTAAAT AGCTAATCGT CCTAACGTAC      7980

CTAGACCTGT TGAATTCCAC ATTAAATCAC CATCTCTTAG TAATCTTTCT TTCTGGTAAC      8040
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1014

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TATGAACTGT TTCGGGATCA ATAAATCTTG CTAAGTCAAT AGAAAAGCCA GACCATTGAT      8100

TACATTTCTG AGCAATCACA GGGTATATAG GAATATTTGA ATATTTTGGA GACTTCCCTC      8160

TTTGAATGTA GGAGGTTATA TCGTTTAACC TCACCCATTC CCAACTTTCT GGTATTTCAC      8220

AAGGTACTTC CTCATAATAA GAGTTATCAT CTCCTTGGGA AACAATAGAA ATGTCCAAAT      8280

CTTTCTTTTT AATCTTGCCT TCTTCAAAGA GTTTTTGTTT TTCTGCTCGT ATTTTTTCAA      8340

GTAAAACTTC GACTGATTCA TCATTTGGGT CTTGTTCAAC TAATTTTCCT TGCATAGCAT      8400

ATTGAAGAAT AGATTTTTTT AGTTTATCTG GAAATTCTTT ATCTAGCTGT TCTAGTCTAT      8460

TATAACTTTC AGCATATTCA TCTACTTTTT CTAAAGCTGA TTCGATTGCT TCTACTATTC      8520

GTTGTTGTTC GGATAGTGGG GGGAGAGCAA TTAATAATAG ATTAAAATTA TAATCATTGA      8580

TTGCAGGATA ACTTGTTCCA GTAGATTTAT TATTAACACG ATTGATAAAA TTATCTGATA      8640

ATAAATAATA TTTCAAATAT GTTTCGTTAA GTAAAGTATC CAAAACAATA AATGCTGTAC      8700

TAGCTATCAA ATACTCTTTA AGTTCTCTAA CTACAGCAAT ATTTTTTAGA TATGGTCTAA      8760

CTGTTGAAAA TAAGACACTA TTCTGCGAAA CTAATTTTCT AGCACGGGAA GGCGCTTGTT      8820

CAGGTGAAAG ATATTGTAGA TTTTTGTAGT TGATTATGTT CTTTTTTCTA TCAATACTAG      8880

ACGTATCTAT ATACCTAAAG GATTTCTCTG GCTTATTTTG CCCAAAATTC CAATAAATTG      8940

ATTTTATCCT CACCCACTCC CAAGTATCAG GAATATCATA AGGAACATCA ATTTCTTGAG      9000

TGCTTCCATC AGCAAACTTC CCATAATGTT TCTTATGTGC TTCAAGTATA TAAAAAGGCG      9060

TAAAAATACG CCTATAGATA ATGGGGTTGA AATAGGTTTA TTGTTGATGA GATTGTAGAT      9120

AATTCAATTT TTTACTTCCA ATCGAATATT CAAATCCTCC ACCTTTTCTG CCTGTAATTG      9180

TTCATCATAA AATTCAATAT CTTCAGGATT TTCCCCTTGG CAACCTCGGC AGAAATATTC      9240

TTCCGCTCGA TCAGGATTCA AAAATCGACA AGCACAAACA AAACAGTCGC CATCATCATT      9300

TATTGAGATA ATATAGTAGA TTGAAATAAG ATGTAAACAA ATCGATTAGG AAAGTTAAAT      9360

TAGTTTCTAG AAATTTTTAG CAGATGTAGT GTACTATTCT AGTCTCAATT TACTATGGCT      9420

TCAAATATAT CTTTCGAAAA AATATTTACA GATGTGTAAT TTTGAAGCTT GCAAAAGTTA      9480

GTAAACTTGT AGATTTCGAT TTGAAGTAAC TTGTTTTCTT GCCCGATATT GTTTTTGAAA      9540

TTGAATTTTT CCATAGTGAC TCCTTAATTT TCTTCTACAC GTCTGATGAT AAATCTAATT      9600

CGCAAAAGAG TCAAGAGGAT TTTTCGAAAA ATAAATAGCG ACCGAAATCG CTATTTTAAG      9660

GGTTATAGGT ATTTGATGGC TTAGACTGCT GTGTGACTGT TTACCCACAG GCAATCTTTC      9720

TTCTATATTA GTATTAGTAA AGGTCTAAAT AATTATCAAT TTCCCATTGT GAAACGAAGG      9780

TTGCATAACT TGCCCATTCG ATTCGTTTGG CTTCAAGGAA GCTAGTATAG ATGTGATCTC      9840
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1015

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CGAGAGCAGC TTTAACCACT TCATCTTCTG TCAAAGCTTT CAAAGCGTTG TGAAGAGTTG    9900

ATGGAAGGTC TGTAATACCA GCTTCCTTGC GCTCTTCTGC TGTCATGATG TAGATATTTT    9960

CTTCGATAGG AGCTGGTGCT TCGATTTTAT TTTCAATACC ATACAAACCA ACTTCCAAAA   10020

GAACAGCCAT AGCAACGTAA GGGTTCGCCA TTGGATCCAC TGAACGCAAC TCAAGACGAG   10080

TTCCCATACC ACGTGAAGCA GGTACGCGCA CAAGTGGCGA ACGGTTACGA CCAGCCCAAG   10140

CAATGTAAAC AGGCGCTTCA TAACCTGGAA CCAAACGTTT GTATGAGTTA ACTGTTGGGT   10200

TCATGATGGC AGTATAGTTG TAAGCATGCT TGATCAAACC GCCTAGGAAA TGGTAAGCTG   10260

TTTCTGACAA CTGCATTCCT TTTGGATCAT TTGGATCAAA GAAGGCGTTA TTTCCTTCTG   10320

CATCAAACAA GGACATATTA CAGTGCATAC CTGATCCAGC AATACCAAAT TTTGGCTTCG   10380

CCATAAATGT TGCGTAAAGT CCGTGTTTGC GAGCAATGGT TTTAACAACA AGCTTAAAGA   10440

TTTGAATCTT ATCACAAGCA CGGAGAACTT CATCGTACTT AAAGTCAATC TCATGCTGTC   10500

CAACCGCAAC CTCGTGGTGA CTCGCTTCTA CTTCAAATCC CATTTTGGTC AAGACATTCA   10560

CAATCTCACG ACGTGTGTTG TCCGCAAGGT CAGTAGGTGC CAAGTCAAAG TAGCCACCCT   10620

TGTCATTCAC TTCAAGTGTT GGGTCCCCAT TTTCATCCAA CTTAAATAGG AAGAATTCTG   10680

GCTCTGGACC AAGGTTGAAG GATTTGAATC CAACTTCTTC CATGTGACGA AGAGCTCGTT   10740

TCAAATTACC ACGAGGGTCA CCCGCAAATG GTTCACCTTC TGTTGTATAG ACATCACAGA   10800

TCAGACCTGC AACACTTCCA TTTTCATCTC CCCAAGGGAA GACTGTCCAT GTATCCAAGT   10860

CCGGGTACAA GTACATATCC GACTCATTGA TACGTACAAA ACCTTCAATA GAAGATCCAT   10920

CAAACATAAC CTTGTTCGAC AAGACCTTAT CTAACTGTTC ATCTGTAGCA GGAATTTCGA   10980

CGTTTTTCAT GGTTCCCAAA ATATCTGAGA ACATAAGACG AATAAAGGTA ACATTTTTTT   11040

CCTTGACTTC ACGACGAATA TCTGCAGCTG TGATTGGCAT AAGTTTTCTC CTTAATCTAT   11100

GACTACTTGC GGTTGCCTAA CCGCGACCAA AAGGTGACTG TACTGAAGCA AAACGCCCCT   11160

GTTGGAGGAG TTCATTGTGA AGTGCACGAC GTACTTCAGT CTGACTAACC GCTTTCTTGG   11220

ATTTCGCTTC ACGTTCAGCA TATTTTTTCT TAATGGCAGC GATATTATAA CCTTCAGAGA   11280

TATAATCTTT GATTTCAAGC AGACGATCCA TGTCATTCAA GGAATACATG CGACGATTTC   11340

CTTCGTTTCG ATCGGGCTTG ATCAACTCTT GATCTTCATA ATAACGAATC TGACGCGCCG   11400

ATAGATCGGT CAACTTCATA ACACTGCCGA TAGGAAAAAC AGCCATATTT CGGCGAAATT   11460

CTTTTTCCTT CATTTACAAT TTCCTTCTTT CTGTCTATTA TAGTCTAAAA AAAGACAAAC   11520

GTCAATTGAT AATGTTATAA AATGTAACAT TATTTTTCTT TTTTCTCTAA AAAGAGACGA   11580
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                              1016
ATACGATCAA TATCGTAATT TACGATAATT GCGACAAAAA CTCCCATAAA CGTTTCTAAT      11640

ACACGCACAA ACACGTACAA AATTGTCTCA CCACTTGGAA TTGATAGGGT AATGATTAAC      11700

ATAGCTGCTA CACCACCAAT AACCCCTGCT TTGTTATTCA TGGCTACATT TGTCATAATG      11760

GTTAACATGG TGCAGATTGG AACAACTACC AAGGTCACCC AAAAGGCTTC GTGGAAAAAG      11820

GTATTTAATA AGAAGAAGAC CAAGGCATAG AGTCCACCGA TACTATTTCC TAGAATACGC      11880

GAAGTCCCAA AATGAACACT CTCATCAAAA CTCTCCCTCA GGCTAAAAAC GGCTGTCAAA      11940

GCACCAATTT GAAGACCTTT CCAGCCAAAA AAGCCAAAAA TCAAGAGAAC TAGAAAAACA      12000

GCAATACCTG TTTTAAAGGT TCGCATACCA AGTTTGAACT GGGATTTATC GAATTTATAT      12060

TTTTTAAAAT AACTCATAAT CTCAACTTTC TATTTCCATT TTATCATAAA TCGGTGATTT      12120

TTATGAGTAA TAGTTGAGAG GAAGCGTTTT TATTTTAAGC AAAAGAAAAG AGGAACTTTC      12180

ATCCCTCTCT TCTTTGATTT ATTTATAAAA TCTTATTTTT CTGTCAAGGC TGCAAGTCCT      12240

GGAAGAACCT TACCTTCAAG AAGTTCCATT GATGCTCCAC CACCCGTACT AATCCATGAG      12300

AACTTGTCTG CACGGCCAAG GTTAATCGCT GCGGCAGCTG AGTCACCACC ACCGATGATT      12360

GATTTAACTC CTGGTTGTTT CACGATAGCG TCCATCACAC CGATTGTACC AGCTTGGAAA      12420

TCTGGGTTTT CAAATACACC CATAGGTCCG TTCCATACGA CTGTTTTGGC ACCAGTCAAA      12480

GCTTCGTCAA ATTTGGCGAT AGATTTTGGA CCGATGTCAA GACCAAGGAA GCCTTCAGAA      12540

ACTGCTTCAC CTTCAGTGTC ACGCACTTCA GTGTAACCAG CAAATGCGTT AGCTTCTTTT      12600

GAGTCAACTG GCAAGATCAA TTTACCATTT GCTTTTTCAA GAAGAGCTTT CGCAACATCC      12660

AATTTGTCTT CTTCTACAAG TGAGTTACCG ATTTCGATAC CTTGTGCTTT GTAGAATGTG      12720

TAAGTCATCC CACCACCGAT AAGGACGTTA TCAGCTTTTT CAAGCAAGTT TTCGATAACA      12780

CCGATCTTGT CTGAAACTTT TGAACCACCA AGGATAGCCA CGAATGGACG TTCTGGAGTT      12840

TCAACTGCTT CTTGGATGTA GGCAATTTCG TTTTCAAGAA GGAAACCAGC AACTGCTTTT      12900

TCAACGTTTG CTGAGATACC AACGTTAGAT GCGTGTGCAC GGTGAGCTGT ACCGAATGCA      12960

TCGTTTACGA AGATACCATC TCCAAGTGAT GCCCAGTATT TACCAAGTTC AGGATCGTTT      13020

TTAGATTCTT TCTTGCCGTC AACATCTTCG TAACGAGTGT TTTCAACCAA GAGAACTTGT      13080

CCATCTTCAA GAGCGTTGAT TGCCGCTTCT AATTCAGCAC CACGAGTGAC ACCTGGGAAA      13140

ACAACATCTT GACCAAGTTT TGCTGCCAAG TCAGCTGCTA CAGGAGCAAG TGATTTACCA      13200

GCTTTATCAG CTTCTTCTTT CACACGTCCA AGGTGAGAGA AAAGAATTGC ACGTCCACCT      13260

TGTTCGATGA TGTACTTAAT AGTTGGAAGA GCTGCTGTGA TACGGTTATC GTTAGTGATT      13320

ACGCCATCTT TCAATGGTAC GTTGAAGTCA ACACGAACGA GGACTTTTTT ACCTTTCAAG      13380
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1017

TCAACGTCTT TAACAGTAAG TTTTGCCATG TTACAAAAAC TCCGG   13425

(2) INFORMATION FOR SEQ ID NO: 152:

         (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 905 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: double
               (D) TOPOLOGY: linear

         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 152:

GATTTATCCT ACCGGnGAAT TTCCGGAGGG GTTCTAGCAG CAATCTTAGG AATCTATGAA   60

CGAATGATTG GCTTTCTGGC CCATCCCTTT AAAGACTTTA AAGAAAATGT TTTGTACTTT   120

ATTCCAGTTG CCATCGGTAT GCTTCTGGGA ATCGGCTTAT TTTCCTACCC GATTGAATAC   180

CTGCTTGAAA ATTATCAGGT TTTTGTATTA TGGAGCTTTG CGGGAGCTAT TATCGGTACA   240

GTTCCTAGCC TCCTCAAAGA ATCAACTCGA GAATCTGACC GAGACAAGAT TGATTTAGCT   300

TGGTTATGGA CAACCTTTAT CATTTCTGGA TTAGGACTCT ATGCCTTAAA TTTTGTCGTT   360

GGAACCTTAA GCGCCAGCTT TCTTAACTTC GTCCTAGCAG GCGCACTATT GGCCCTTGGC   420

GTCTTGGTTC CTGGCCTCAG CCCATCAAAT TTACTTTTGA TTTTGGGACT CTATGCTCCT   480

ATGTTGACTG GTTTTAAAAC TTTTGATTTC TTGGGAACCT TCTTTCCGAT TGGAATTGGT   540

GCAGGTGCAA CTCTCATCGT TTTTTCAAAA TTGATAGATT ATGCCTTAAA CAACTACCAC   600

TCACGCGTCT ATCATTTCAT CATCGGTATC GTCCTATCAA GTACCCTTTT GATCTTAATT   660

CCAAATGCAG GAAACGCTGA AAGTATCCAA TACACAGGAC TTTCACTTGT CGGTTATGTC   720

ATCATCGCCT TCTTCTTTGC GCTGGGAATC TGGCTTGGTA TTTGGATGAG TCAATTGGAG   780

GATAAATATA AATAATGGCA AAAAAAGTTA AAATCAAAAA AACATTGGTG GAACAAATCC   840

TATCTAAAGC AGCTATCCCT CATCAGGGGA TTCAAATCAA TGCCCTAGAA GGAGAGCTTC   900

CTCAA   905

(2) INFORMATION FOR SEQ ID NO: 153:

         (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 4278 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: double
               (D) TOPOLOGY: linear

         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 153:

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                                    1018
CTTGAATTAA ATAAAAAACG TCATGCGACT AAGCATTTTA CTGATAAGCT TGTTGATCCC      60

AAAGATGTGC GTACGGCTAT CGAAATTGCA ACCTTAGCGC CAAGCGCCCA CAACAGCCAG     120

CCTTGGAAAT TTGTGGTGGT ACGTGAGAAA AATGCTGAAC TGGCAAAGTT AGCTTATGGT     180

TCCAATTTTG AACAGGTATC ATCAGCGCCT GTAACCATTG CCTTGTTTAC AGATACGGAC     240

TTAGCCAAAC GTGCTCGTAA GATTGCCCGT GTTGGTGGTG CTAATAACTT TTCTGAAGAG     300

CAACTTCAAT ATTTTATGAA AAATCTGCCA GCTGAGTTTG CCCGTTACAG TGAGCAACAA     360

GTCAGCGACT ACCTAGCTCT CAATGCAGGT TTGGTTGCCA TGAACTTGGT TCTTGCATTG     420

ACAGACCAAG GAATTGGTTC TAACATTATT CTTGGTTTTG ACAAATCAAA AGTTAATGAA     480

GTTTTGGAAA TCGAAGACCG TTTCCGCCCA GAACTCTTGA TCACAGTGGG TTATACAGAC     540

GAAAAATTGG AACCAAGCTA CCGCTTGCCA GTAGATGAAA TCATCGAGAA AGATAGAAA      600

GAAGAAAAAA TGACAGCAAT TGATTTTACA GCAGAAGTAG AAAAACGCAA AGAAGACCTC     660

TTGGCTGACT TGTTTAGCCT TTTGGAAATC AATTCAGAAC GTGATGACAG CAAGGCTGAT     720

GCCCAGCATC CATTTGGGCC TGGTCCAGTA AAAGCCTTGG AGAAATTCCT TGAAATCGCA     780

GACCGCGATG GCTACCCAAC TAAGAATGTT GATAACTATG CAGGACATTT TGAGTTTGGT     840

GATGGAGAAG AAGTTCTCGG AATCTTTGCC CATATGGATG TGGTGCCTGC TGGTAGCGGT     900

TGGGACACAG ACCCTTACAC ACCAACTATC AAAGATGGTC GCCTTTATGC GCGCGGGGCT     960

TCGGACGATA AGGGTCCTAC AACAGCTTGT TACTATGGTT TGAAAATCAT CAAAGAATTG    1020

GGTCTTCCAA CTTCTAAGAA AGTTCGCTTC ATCGTTGGAA CAGACGAAGA ATCAGGCTGG    1080

GCAGACATGG ACTACTACTT TGAGCACGTA GGACTTGCCA AACCAGATTT CGGTTTCTCA    1140

CCAGATGCTG AATTTCCAAT CATCAATGGT GAAAAAGGAA ATATCACGGA ATACCTCCAC    1200

TTTGCAGGAG AAAATACAGG TGTTGCCCGT CTTCACAGCT TTACAGGTGG TTTACGTGAA    1260

AATATGGTAC CAGAATCAGC AACAGCAGTC GTTTCAGGTG ACTTGGCTGA CTTGCAAGCT    1320

AAACTAGATG CCTTTGTTGC AGAACACAAA CTTAGAGGAG AACTCCAAGA AGAAGCTGGC    1380

AAATACAAGG TGACGATCAT TGGTAAATCA GCCCACGGTG CTATGCCTGC TTCAGGTGTC    1440

AATGGCGCAA CTTACCTTGC CCTCTTCCTC AGCCAGTTTG GCTTTGCTGG TCCAGCCAAA    1500

GACTACCTTG ACATCGCAGG TAAAATTCTC TTGAACGATC ATGAGGGTGA AAATCTTAAG    1560

ATTGCTCATG TGGATGAAAA GATGGGTGCT CTTTCTATGA ATGCCGGCGT CTTCCACTTC    1620

GATGAAACAA GTGCTGATAA TACCATTGCC CTCAACATCC GCTATCCAAA AGGAACAAGT    1680

CCAGAACAAA TCAAGTCAAT CCTTGAAAAC TTGCCAGTTG TTTCTGTTAG CCTGTCTGAA    1740

CACGGTCACA CGCCTCACTA TGTGCCAATG GAAGATCCAC TTGTGCAAAC CTTGTTGAAT    1800
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1019

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ATCTATGAAA AACAAACTGG CTTTAAAGGT CATGAACAAG TCATCGGTGG TGGAACCTTT     1860

GGTCGCTTGC TAGAACGCGG AGTTGCCTAC GGTGCTATGT TCCCAGACTC GATTGATACC     1920

ATGCACCAAG CCAATGAATT TATCGCCTTG GATGATCTTT TCCGAGCAGC AGCAATTTAT     1980

GCCGAAGCTA TTTACGAATT GATCAAATAA AACGATAGAA GTCTGAGATC TTATGCTTGG     2040

ACTTCTTTTT GGAGGGAAAG TAGATGTCTC AAATCGAAAG AATCAAACAG GCTATCATGG     2100

CGGATTCGCA GAATGCCAGC TATACAGAGC GTGGCATTGA GCCTCTCTTT GCAGCGCCAA     2160

AAACTGCTCG CATCAATATC ATCGGTCAGG CTCCGGGACT TAAAACTCAA GAAGCAGGCC     2220

TTTACTGGAA AGATAAAAGT GGTGACCGCT TGCGGGACTG GCTAGGTGTG GATGAAGATA     2280

CCTTTTACAA TTCAGGTTAT TTTGCTGTTT TGCCTATGGA TTTCTACTTT CCAGGACATG     2340

GCAAGTCGGG TGATCTTCCG CCTCGTACAG GTTTTGCAGA AAAATGGCAT CCGCAGGTCT     2400

TACAGGAATT GCCTGATATT CAGTTAACCC TCTTGATTGG GCAATATGCC CAAGCCTACT     2460

ATTTACAGGA GAAAATCAGT GGGAAGGTAA CGGAGAGGGT GAAACACTAT AAAGACTATC     2520

TGCCAGCCTA TTTTCCGCTA GTTCACCCAT CACCACGAAA TCAAATCTGG ATGGCCAAAA     2580

ATCCTTGGTT TGAGGCAGAA GTAGTGCCAG ATTTGAAAAA AAGAATTAAA ACCATTTTAT     2640

AGTCAATGAA AATCAAAGAG CAAACTAGGA AGCTAGTCGT AGGCTGCTCA AAGTACAGCT     2700

TTGAAGTTGC AGATAAAACT GACGAAGTCG GTAACATACG CACGGTAAGG CGACGCTGAC     2760

GTGGTTTGAA GAGATTTTCG AAGAGTATTA GAAGAAAAAG AATGAAAGAA ATAGCCTTTG     2820

ACGCATTTTA CCAGCTTTAC CAAAACGACC AGCTTTCTTT AGTGGATGTG AGAGAAGTGG     ·2880

ATGAGTTTGC AGCTCTTCAT TTAGAAGGTG CCCACAACCT ACCGCTTAGT CAATTGGCTG     2940

ATAGTTATGA TTAATTGGAC AAAGATCGCT TGCATTATAT TATTTGCAAA TCTGGAATGA     3000

GATCGGCGCG TGCTTGCCAA TTCCTATTAG AACAAGGTTA TAATGTTATC AATGTCCAGG     3060

GTGGCATGTT AGCCTTTGAA GAACTTTAAA ATTTTGCATT TCTCCTACTT GGTGTGGACT     3120

GGGTAGGAGA GTTTTATTTT TAGATAATTC TTATTTTTAA GAAAATTGAA AACATTTAAT     3180

ATTTGCCTCG TGATGCTTTT TTCAGACTCC TAATCGTGGT ATACTAGGTC AGTATTTTAT     3240

AAATATGAAG GAGATTTTTA TGGCTAAAAA AGGTACCCTA ACAGGTTTGC TCCTGTTTGG     3300

AATATTTTTT GGTGCGGGGA ACTTGATTTT TCCGCCTTCT CTAGGTGCTC TATCTGGAGA     3360

ACATTTTCTT CCTGCCATCG CAGGTTTTGT CTTTTCAGGC GTTGGTATCG CCGTCTTGAC     3420

CCTTATTATT GGAACGCTAA ATCCTAAAGG ATATATCTAC GAGATTTCAA CGAAGATAGC     3480

GCCTTGGTTT GCGACTCTTT ACCTCTCAGT TCTTTACTTG TCAATCGGTC CATTCTTTGC     3540
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1020

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TACCCCACGT ACTGCTACAA CAGCTTACGA AGTAGGGATT AGCCCCCTTT TGTCGGATGC    3600

AAATAAAGGA CTTGGCTTGA TTGTATTTAC GGTTCTGTAT TTTGCGGCAG CCTATTTGAT    3660

TTCGCTTAAT CCATCAAAAA TCTTAGACCG CATTGGACGT ATTTTAACGC CAGTCTTTGC    3720

AATTTTGATT GTTATCTTGG TCGTTCTGGG AGCTATCAAA TATGGTGGAA CAAGTCCTCA    3780

AGCTGCTTCA CTGCTTATCA AGCTTCTGCC TTTGGTACAG GTTTCCTAGA AGGTTACAAT    3840

ACCTTGGACG CCCCTTGCCTC AGTGGCCTTT AGCGTAATCG CAGTTCAAAC CTTGAAACAA   3900

CTTGGATTTT CAAGTAAGAA AGAATACATT TCAACTATTT GGGTTGTTGG TATCGTTGTT    3960

GCCCTTGCCT TCAGCGCTCT TTACATCGGT TTAGGTTTTC TTGGAAATCA TTTCCCAGTA    4020

CCAGCTGAAG CGATGAAGGG TGGAACACCA GGTGTTTACA TCTTGTCACA AGCCACTCAA    4080

GAAATCTTTG GCTCAACAGC TCAACTCTTC CTTGCAGCTA TGGTTACCGT AACCTGCTTC    4140

ACAACGACTG TTGGTTTGAT TGTGTCAACA GCTGAGTTCT TTAATGAGCG CTTCCCACAA    4200

ATCAGCTACA AGGTTTATGC GACAGCCTTT ACCTTGATTG GATTTGCTAT TGCCAATTTG    4260

GGTCTTGATG CGATTATC                                                  4278
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(2) INFORMATION FOR SEQ ID NO: 154:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1953 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 154:

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ACCCGATCAA ATGACAAAAG CTAACTTTGG TGTCGTAGGT ATGGCCGTAA TGGGTCGTAA    60

CCTTGCCCTT AATATTGAAT CTCGTGGTTA CACAGTTGCT ATCTACAACC GTAGTAAAGA    120

AAAAACGGAA GATGTGATTG CTTGCCATCC TGAAAAGAAC TTTGTACCAA GCTATGACGT    180

TGAAAGTTTT GTAAACTCAA TCGAAAAACC TCGTCGTATC ATGCTGATGG TTCAAGCTGG    240

ACCTGGTACA GATGCTACTA TCCAAGCCCT TCTTCCACAC CTTGACAAGG GTGATATCTT    300

GATTGACGGA GGAAATACTT TCTACAAAGA TACCATCCGT CGTAATGAAG AATTGGCAAA    360

CTCTGGTATC AACTTTATCG GTACTGGGGT TTCTGGTGGT GAAAAAGGTG CCCTTGAAGG    420

TCCTTCTATC ATGCCTGGTG GACAAAAAGA AGCCTACGAA TTGGTTGCGG ATGTTCTTGA    480

AGAAATCTCA GCTAAAGCAC CAGAAGATGG CAAACCATGT GTGACTTACA TCGGTCCTGA    540

TGGAGCTGGT CACTATGTGA AAATGGTTCA CAATGGTATT GAGTACGGTG ATATGCAATT    600

GATCGCAGAA AGCTATGACT TGATGCAACA CTTGCTAGGC CTTTCTGCAG AAGATATGGC    660
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1021

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TGAAATCTTT ACTGAGTGGA ACAAGGGTGA ATTAGACAGC TACTTGATTG AAATCACAGC        720

TGATATCTTG AGCCGTAAAG ACGATGAAGG CCAAGATGGA CCAATCGTAG ACTACATCCT        780

TGATGCTGCA GGTAACAAGG GAACTGGTAA ATGGACTAGC CAATCATCTC TTGACCTTGG        840

TGTACCATTG TCACTGATTA CTGAGTCAGT GTTTGCACGC TACATTTCAA CTTACAAAGA        900

AGAACGTGTA CATGCTAGCA AGGTGCTTCC AAAACCAGCT GCCTTCAACT TTGAAGGAGA        960

CAAGGCTGAA TTGATTGAAA AGATCCGTCA AGCCCTTTAC TTCTCAAAAA TCATTTCATA       1020

CGCACAAGGA TTTGCTCAAT TGCGTGTAGC CTCTAAAGAA AACAACTGGA ACTTGCCATT       1080

TGCAGATATC GCATCTATCT GGCGTGATGG CTGTATCATC CGTTCTCGTT TCTTGCAAAA       1140

GATTACAGAT GCTTACAACC GCGATGCAGA TCTTGCCAAC CTTCTTTTGG ACGAGTACTT       1200

CTTGGATGTT ACTGCTAAGT ACCAACAAGC AGTACGTGAT ATCGTAGCTC TTGCGGTTCA       1260

AGCAGGTGTG CCAGTGCCAA CTTTCTCAGC AGCTATTACT TACTTTGATA GCTACCGTTC       1320

AGCTGACCTT CCAGCTAACT TGATCCAAGC ACAACGTGAC TACTTTGGTG CTCACACTTA       1380

CCAACGTAAA GACAAAGAAG GAACCTTCCA CTACTCTTGG TATGACGAAA AATAAGTAGG       1440

TCAGCCATGG GGAAACGGAT TTTATTACTT GAGAAAGAAC GAAATCTAGC TCATTTTTTA       1500

AGTTTGGAAC TCCAGAAAGA GCAGTATCGG GTTGATCTGG TAGAGGAGGG GCAAAAAGCC       1560

CTCTCCATGG CTCTTCGAC AGACTATGAT TTGATGTTAT TGAACGTTAA TCTGGGAGAT       1620

ATGATGGCTC AGGATTTTGC AGAAAAATTG AGCCGAACTA AACCTGCCTC AGTCATCATG       1680

ATTTTAGATC ATTGGGAAGA CTTGCAAGAA GAGCTGGAAG TTGTTCAGCG TTTTGCAGTT       1740

TCATACATCT ATAAGCCAGT CCTTATCGAA AATCTGGTAG CGCGTATTTC GGCGATCTTC       1800

CGAGGTCGGG ACTTCATTGA TCAACACTGC AGTCTGATGA AAGTTCCAAG GACCTACCGC       1860

AATCTTAGGA TAGATGTTGA ACATCACACG GTTTATCGTG GTGAAGAGAT GATTGCTCTG       1920

ACACGCCGTG AGTATGACCT TTTGGCGACA CGG                                   1953
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(2) INFORMATION FOR SEQ ID NO: 155:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6474 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 155:

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CCGGCAGTAC ACGAGCTTGG GGAACAGCCA CTGGAACGAT GAGGTGTGAG CTCAAAATAT         60
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                                    1022
CCTCCAGTTA TGTTTTTCCT AATAGTATAC CGGAAGAGTG AAAGGATTTT ATAATGGAGC      120

GGTTACAAAG AACCTACTTT CTATTAAACA GTATACTATG AAAATGTGAA AATTTAACAT      180

TTTTTTGTAC AAATTTTATA AATTATTGCC TTTTTAATAT CAATAGTTAA TCTCTTATCC      240

AGATCCCCCT TGTGTAAACT TTATCTTTAT AAGCTTCAAG GCCCCTATCC CATCTATTTG      300

CAACAATTAG ATCACTTTGT TTTGTAAATA GTTCAAAATT CTTTTCAATA ATTACGTTAT      360

CTATACTAAC GTTTAAATTT GGTTCATATA CTAAAATTTT TATACCGACA ATCAATAGTT      420

CATTAATTAT ACTTAAAATA GCTGACTCTT TGTAATTATC TGAATTATAT TTCATCCCCA      480

ATTTATATAT TCCTACTATC TTTGGCTTTC GTTCCAATAT TTGTTTAACT ATGAACTGTT      540

TTCTATTTGT GTTTGAAATA TCAATCGCTT CTATCACTGG GGCATTTATT TCTATAAATT      600

CTTTTTTTAA TTGTTTAGTA TCTTTGGGAA GACAATATCC TCCAAATCCA AAAGAAGGAT      660

TATTATAAAA ATTTCCAATT CTTGGATCTA AACAAACACC TTTTATTACA ACTTCAGCAT      720

TTAAGCTTCT CCTCTCAGCA AAAGAATCTA GTTCATTAAA AAAGCAACAC GGAGAGCTAA      780

GAATGTGTTA GAAAAAAGCT TAATTGCTTC TGCTTCAGTA GGAGAAACTA ACATAACATT      840

TTTAATATTG GCAGTACTAT GAGTACTAAT CGAAAGGAAC AACTCTGCAA TTTTTCTTCC      900

TTCAACTGTC TCATCTCCAA CAACTATGCG ACTTGGATAT AAATTATCAT ATATAGAACA      960

ACCTTCTCTC AAAAATTCAG GGACAAAAAT GATATTTTTT GTATCAAACA GCCTTTTTAA     1020

TTTGTTTGAA AAGCCGATCG GAACTGTTGA CTTTAAAATA ATCTTTCCAT TAGGTTTTAC     1080

CCTCAGAATC TTCGATACCG TTTGTTCGAT TTCATATGTA TTAAAACTAC CAATTTTCTC     1140

ATCATAATCT GTCGGAAGCG CAATAATATA ATAATCAATA TTATTTTTAA TTTCAGAAAA     1200

TGTATCAAAA AAAGTAATAT TTAAGTTATT CTCGCAAAAA AACTTCATAA GCTCTTCATT     1260

TTTAGATGGA AGAATGCCCT TTTTTAAATT ATTTATTTTT ACAGAATCTA TATCATATGC     1320

AACAACTTTA TATTTAGATG CAAATAGTAA CGCGTAGGCC AGCCCAACAT GCCCCAAACC     1380

AATTACTGCT ATATTCATAA AACTACTTCC TTATTTCTTA ATCCAAAATC TAATAGAATA     1440

AGCTGCCCCA TTCCTTAAAT ACAACTCTTT AATATTGTTT AAAAGTTTTT CAACTGATTT     1500

CCAGATTATC AAAATCTGAG ATTTATAGCA CAATATTGAT GATATTCTAT CAATATAATT     1560

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CATACTACTA TCACTTACAT ATGGGAAGTC CTCATAATAT ATTACTTTAT AACGCATAAA     1680

TTCAAGCGCC CTTCCAATAC TATTCACAAA AACATGAGCA ACATGGTCAC CAAGTGAAAG     1740

CGGACAATAT ACGACACATT TGTCGTCTAA ATGCATTAAC AGCTCTTTTA TGATATCATT     1800

CTTTAATGTG TCCTCATTTT TTAATTCACT ATAGATATGA CGGTATAGAA AATTGCCATT     1860
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1023

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TCTATCTTTC CTATAGAGAC ATTCATAGTA CGATAAGTGT CTAAAATCAC ATTGTAGACG       1920

TTCACAAGCT AACCTGTCTT CTTTCTTCCT TTCTTCAATC GGATATTTCC CAAGGTTACA       1980

CAACTTATGA AATTGCTTAG CAGAGGGCTG TAGCTGTTGG CTCAAAGGGT AACCAGAAAA       2040

TATAGTAATA ACAAGTACAA TTTCTCCTTC TGAAGTTAAT TTTGAAATAT AATCACCACA       2100

GGAAAAAATT GCGTCATCTA AATGTGGAGA TAAAAAGATA TACTTAGTAT TGTTACTCAT       2160

AACCATTCCC TCTACAATTT ATCTAAAAAC TCACTAAGTG TCTGATTAAA TTCCACATCA       2220

TCAAAAAAAT TCACCTTATT CTTAATAATG AATATTTCGT TAAATAAACA TATATATAAA       2280

TATTTCAATA TCCTTTCAAT ATCATCCTCT AAATTCTCCT CAATATTTTG TATCAGCCCA       2340

TTTACAATCT TATTAAAAAA GATAAGCTCT TTATCTCTAA AATTAAATAT TTTCATACAA       2400

CTGTTGTATC GAAAAATATA TAAAATAATT TTTACTAATG TTTGAATATT TAAACAACTA       2460

AATAAATGAG TTGTACCCGG GACACTATTT ATGTTATCAA GAACACTATC TTGAAACCTC       2520

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ATGAACTGCA CCCCAAAAGT TAGACAGAAT AAATCTAACT TTTGGGGTGC AGTTCATAAG       2700

ATTGGGATAT TTTTTTTTAG CTAGAACTAG TAGAAATATA TAGTCAAATA ACAGATACCT       2760

TAAGGGTTTC TCATCTACAT AAAAAAATGA TACTTTTTTC TCTTCAGTAA TTACCTCATA       2820

AGCTTCACAA TAGAATCTCA TGTTTCCCTC CCCTATATTC TTAAATAAAA TCCTTTGGAA       2880

ATTGATATAT CTTAGTAAAA TATTGTTTAA GTTCCGGATG CGGAGCATGG GTAACAATAA       2940

TGACAGTCAA ATCCTCTCTA TCTAATATCT TACGTTCAAT CGCTAACGAA GTTCTCCTAT       3000

CGATAGCAGA AGTTCCCTCG TCAATTAATA CTATTTTCTT ATTTCTAATT AGCCCTCTAG       3060

CTAAAGTAAT TTTTTGTTTC TGCCCTCCTG ACAGTAATCT CCCATCATCA CCAACATAAT       3120

AATCTAAAAT GTTATTAGGA AAATCTTTTA CACTCAAACC AACTTGCTCT AAAGACTGTA       3180

GTATTTCTTC ATCAGTATAA TTTTCTTCCA ATAAAATATT ATCTCTAATC GTACCTTCAA       3240

ACAAATAAGC TTTTTGATCT ACATATAGAA CATTCGAAAC CATATTTAAA TAGGAGGTTT       3300

TTTTTATATC ATCCCCGCAG AATCGCAATT CTCCACTATA ATCTCTCAAA AAGCCATTCA       3360

ATAATTTTAA TAATGTAGAT TTCCCGCTTC CACTTTCACC TAAAATTAAA TACTTTTCAT       3420

TACGTTGAAA ACAAAAATTT AAGTTTTTTA ATATTTCTTT ATCTCCATAC TTATAGCAAA       3480

TATTTTTTGC TTCATATAAC GGAAAATCTC TATTCACCTC ATTTGGTTCG ATATCATTCA       3540

TTTTATTTGA CTCAATTGGA TTAATTGAAT ACAATTTTAA AAAAATAGGC TTCGTACCAA       3600
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1024

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TAATAGAGGA TAATTGACCT CCTAATTCAC CTAGCGCTGT AAAAATAACA CCTGTTAGTG    3660

CTCCTATTGC TTCAATAGTA CCAATTTTCA CTATTCCTTT TATTGCAAGA TAGCCTGTTA    3720

AAAAAACGAG AGATATCTGA AAAAAAATAT TGAGAAAGAA GCTAATAGCG CCTGCTAACG    3780

TTTCTACAGT TGTCTTTCTT TGTATAACCA TCTTTAATAA AATTCCTGCT TCTTTAATTT    3840

TCTTAGGCAA TACATATAAA AGATTCAAGG ACGCTAACAC ATCAAATCCA TTCAATATAG    3900

TCTCACTAGA TTTTAAAAAA GCTTCATTTT GGTTAGTTAA ATTTAGACTA ACTTCTCGCA    3960

TTTTCGATGC AAAGATTTTT GGTACAAGTA GCATAATCAT TAATGAAAAC AAGGTGGCTA    4020

CAGTCAATGA CCAATGATAG TGATTAAGAG TCACAACTGC AAATATAGTA CCAGAAATTC    4080

CTTTTATTAC TAAAAAAAGT TGTTTAAACG CCTGATCATT TAAAGTCTGA ACATCATTAT    4140

TTAGCCACGA AAGATATGTT CCTGATGATT TACTATGAAA TTCTTGATAG GTAGAGTTAG    4200

AGATGTCTGT GGCAACTCTA TTTCGAATCT CTAGATTAAA CTCTTGGATC ACTTCAACCT    4260

GATAATTTTT CACTACCCAG TCAAGGAATA TTATCCCACA CCAGACAATC ATTTGGTAGA    4320

TTGACAATTT CAAAAACCGC TCTAAATTCA TCGCAATTAA TTCATTCAAC ACCAGAGCAT    4380

TAATAGTTGC TGCATAAATT AGCAATAATT GACCAGCAAC AATAAATATC GTTAATAAAC    4440

TAAATTTTTT TATATTTGAT TTTATAATAG TATACACAAT AGTTTCTCAC TTTCTAAATT    4500

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AGCCTTGCAT TTGTCTCCTA TTAATAGTAA CCGCTTTATG TTTAAAGAAT AATATTTCTT    4680

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TTCTAGCACC TCTTTTTTAC ACAACCAAAA TGACGTACCT GCTATATTGT GAACCATTTG    4980

AACAAACAAG GGATTCCAA CAAAATCGGT CTTCTCCTCT TCTCGTGTAC CATTTGGATA     5040

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TTGATGTAAA CAACTTTTCA CAGCTCTAAT CAGAGATTCA TACCTATTAT GTGTTGGTAT    5400
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1025

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TATAATACTT ACTAATTCTT GATCTATATT CCTATCCATG ACTACTCTTC TCTAATAATT        5460

CATCATATAC TCTCATGGTT TCTACAAACA TTTTTTGCAC AGAAAAATGT TTTCTTATTT        5520

TTGATTTACT ATTCTCACCT ATATATTTCA AATACTCAGA ATCATTGAGT AAAAAATTAG        5580

CACAAGCACA CACTCCCTCA ACATCTTCCT TCTCAAATAA AAATCCATCA ACCCTATGTT        5640

CAATAATTTC ACTTAACCCG CCAACATTAC TAGCTAAAAC CGGAGTTCCT TGTGACATTG        5700

ACTCTAAAAC ACACATAGGT ATTCCTTCTG TATCAGAAGG AATATACAAT AAATCCGATA        5760

TTTGGTAAAC TATAGTAGCT GGATAGATTT CACCAAGTAA CCTGAAATTA TCTCTACATT        5820

TCAAATGGCA AATTTTTTCT TTCAAAGCAG CCCACATACT ACCATTTCCA GCCATAATAA        5880

AAATCACATC TTCTCTGACT AAAAATAATT TTTCTGCAAA TTCAAGGAAT CTATCCGGCC        5940

TTTTTTCTGG ATCCAACCTT CCAACATAAC AAATGATTTT TTGTTATTTG GAATACAAAA        6000

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AGAATTTCTT TTTTAAGTTA TATTCAACCC ATCCATGGCA TGTTATCACT GTCTTAACCT        6240

TTCCAAATCC ATTCTTGTCA AGTTTTTTTA ACATATATAA AAAATAATTA GTTGAGTAGC        6300

CATGACAGTG TATAAGTTGG ATTTTTAATA ATTTTAAAAT ATTTTTAACG TGTAAGGCAG        6360

TTTCAAAATT ATTTGAACAT TGAGTACAAT CAACATAGGC AATATCTAAA TTTTTATAAT        6420

CATCAATAAC CTTTGAATCT CTAGATACAA TTATCAAAAT AGGGAATAGA GACA            6474
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(2) INFORMATION FOR SEQ ID NO: 156:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 4792 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: double
           (D) TOPOLOGY: linear

       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 156:

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TATTTAACGA TTTTTTTCAT GTCATTTCCT CCAAAATAGA ATACCTTATA ATCTTAACAG          60

AAAAAGAGCA TTTACGCCAT TATATGATAT CTATCTCTGT GATAAGTTTT TTTTATGGGT         120

AATTTAAAAG ACCAAACGCA AGATGGCAAT CAAGACCACT CCAAAGAGAA CTGTTCCGAC         180

TAGATTGCGG TAGCGAAAGG CTACCCAAGC TGTTGGAAAG ACGGCTAAGA AGTCCAGTCA         240

TTTGATTTGA GGAAGACTGC CAACCTTACC TGTCACTACG CTTGAAAGAA TCAGGGCAAA         300
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                                    1026
GATAATGGAA ACAGGCAAAA ACTTCAAAAA ACGCTCAACA ATCGCAGGCA GGCCCTTATA    360

CTTGACCAAG ATGAAGGGAA TCATACGGGG AATCCAAGTC ACCAAGCCAG AGAAAATAAC    420

TGCTAATAAA AGATACTTAC TGACCATCTA AAACCACCCC CATGCTACAA CCAAGTAGCG    480

TCGCAAACAG AACAGCTAGT GACTGAGACA TCACTGTCAA GAGCAAAAAG AAGGACACCG    540

CAACAACTGC TAGGATAATG AGCAGATTGC GGACAGGAAT CCGTCTTTGC ATAATCTGAA    600

ATTGCGAAGC AAAATACCAA TAAACATCCC AACCAGGGCA AAATCCAAGC CAAAGATTTC    660

TGGATTTGGT AGCAGGCCAC CCAGAGCCGT TCCGACTACT GTCCCCACAA ACCAAGCCAC    720

ATAGCTGTTA AGATTGTTTC CGTGCATCCA CATAGGATTT ACCTTGTCTG TATGGGCCAA    780

TTCACCCATC AAAACGCCAT AGGTCTCATC TGTCAAGATA CTAGACATAC CGATATTGTA    840

CCAAAGACTG GTATGACGGA AATAAGTCGA TGCGTGTAAA CTCAACAAAA AGAGACGCAA    900

GTTGATTAGA AAAACCGTCA TAGCAATAGC TGCCACAGGA GCTTGAACCA CAATCAGTGC    960

CAACATGGCA AACTGGGCAC TCCCAGCATA AACAAAGAGA CTCATCAAGC CCATCTCAAC    1020

AGGTGTCACA TAGGGCGCAC CGATAATTCC ACAGGCCAGG CCGATACTGA CATAGCCAAG    1080

AGCCGTTGGC ATGGCTGCCT GCGCCCCCTC CTAAAATCCT TTTTCTTTCA TCTTTCTCCT    1140

CATATTGTCT TAATAATACT CAATGAAAAT CAAAGAGCAA ACTAGGAAAC TAGCCGCAGG    1200

TTGCTCAAAA CACTGTTTTG AGGTTGCAGA TAGAACTGAT GAAGTCAGCT CAAAACACTG    1260

TTTTGAGGTT GTGGATAGAA CTGACGAAGT CAGCTCAAAA CACCGTTTTG AGGTTGTGGA    1320

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GAGTTTCGAA GAGTACAAGT AGGCTGAAAA GAATCCAACC ACAGCATGGA CTATTATATA    1440

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CCAAAGCTAT TGTAAATAAG CTAGGTAAAA CAACCGTAAT GGCACCGATA GAGGATTGAA    1800

CTGCTCCCAT TGACTCCTCA GGTATTTGTT TAAAAACGAG TTCTTGCAAT CTAGGAGAGA    1860

GAACACCTGC GAAAAAGGCA TCCAAGGTAC TAAAGATGAG AATCCAGTCA AAACGAACTG    1920

TGGCAAATCC TACTAGAAGA AGCAACTGGA TGACAAGTGA GGCATAGAGA GCTGTTTTTA    1980

TGGAAATGGT ATGTTGCAGA TAGCCACTTA CAAGGCTTCC GACAATCAGG GCTGATAATT    2040

CTAGTGTGGC TAACAAGGCA AGAGATTGAC CAGTTTGTAA ATTCAAAAAG GGCTGGTTCC    2100
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1027

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TTAAAAATAG AGTGGAAATA GGAACCGTAA CATTTATCAC TGCTTGACTA GTAGAGATAA    2160

TAAACAAAAC CAAGAGCACC TTATTCATAT TCCATATCAA TTTCGATGAT TGGAGCAAAT    2220

GCTGGCAAAA GGATTTTACA GAGAGTCCTT CTTGATAGCT AATCGTTTTT TCTACTTTCA    2280

AGAGGTCAGT TTTTATGAAG AGGATACCTA AAAATGCGAT TAAAAAGGTA AGAGCGTTCA    2340

GTAAGGAAAT AAACTGGATG GATAGAATGC CTAGTAAGAC TCCTCCTAGG ATATTACTGA    2400

TTGTTTTCAC TAAACTAACA GTTGACTGTT TAAAGCCAAT AGCTTCTGCC AGATGGTCTT    2460

GCCCAATAAT TCTAATGAAA ATCGGAGTGA GCATGGCGCC TGAAAAATAA CTCAATGTGT    2520

CAGACAAGAG GTTAATCAGA CAAATAAATG CTACTAGCAA CAAGGAGAAA GACTGCCCTG    2580

AAAGTGATAA AGACACTATA GAGTAAAGCA AAAATTTTGC AAAACTAATG ACTGTGTATT    2640

TCAAGCACACG ATGATGTTGA AAATCCGCCA AAACTCCCAG AAAGATTTGT AGAACTTGGG   2700

GCAGGGTTTC TGAAATCGTG ATGAGTAAAA TCGCCAAAGG GGCAAAAGAT GCATCTGCCA    2760

CATAATTCAG GAAGGCCAGA TAAAAAATCG TATCCCCAAG CGTTGAAATC CACTGGTTGA    2820

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TAACATCAAA AGCTGACCAA TGCCATTGTA GACTATATGC AGTCCAATAG GCCAATAAAT    3000

TGACTTTGTC ATTCTAAATA AGACTGCAAA TATAAGACCT CCACCCATAT AGAAGACAAA    3060

GTCTGTCAAG ACCCAACCGT GATTACTAAT GTGCGAGACC CCAAATAAAA CAGCGGAACC    3120

AAGTACATCT AGCCCCCATT TCTTTCCTTT TTCCAGAGCA GTCATCACTA ATCCACGATA    3180

AATCATGTCT TCAAAAATGG GACCTGCAAT CACAGGATAA AAAAAATACA TCAAAAATGC    3240

TGTAGCCCCT GTAAAAGTCG GAGCAGCATG TTGATAAGAA ATTTCATTTC GAGTAGGTGG    3300

GAAAAGAAAA AAGGTAACGA AATTCCAAAC AACAAAAGCA AGCAGAGCTA GGAAGGAATA    3360

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GGCAAAGTCA GATAGCCCAG TAACAAGGTC GCTGCGTAAA ACTAGAACAC TGAACTTCTG    3540

GTCAGCAATA ACTAGTAGAA AAACTATAAT AAAGTAGCGG TGTGAGATTA TCTTTTTCAT    3600

ATATCACCTT TCTAATATCC AAATACCAAT AAAGTAACAA TGAGTAAGAA ACTATTCCAT    3660

GAAGCATGCA GAGCTATAGC CCAATAGATG GATCGGGTGT AGCGAAACAT CATACAAAAT    3720

ATCAAGCCCA TTCCAAAATA CTTTATGAAA TCTGTCGTTA TCCAACCATA CTGCAAAACA    3780

TGCATAGCGC CAAATATGGC AGCGGAAACA AGAACATCAA GATAGTATCT CTTAACTTTA    3840
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                                            1028
GATAAACTTG TCATCAAAAG ACCACGACAA ACAACCTCTT CTGATACAGG TGCGATAATA        3900

CTAGTATAAA GTATTCGCGT AACAAAATAG CTAATTCCTG TTAAATTGGT GGCTACTTCT        3960

ACGACTGTAC TTCCATTCTG GGTACGAGGA AAGATATAGG TTGTTAGATT TGCCCACACG        4020

AACAATAAGA AAAAGAAAG AAGGAAAACA CCCAGGTAAG ACCAACGAAA CTGGAAACGA         4080

CCACACTCTT TCCAATGTTC ACTTTTGACA AAAGCAATTG TAGCTATAGT TCCCAGAATA        4140

AGTACCAATA AAACTTGGAA CACATAGTAC ATATTATCAG ACAAAGCAAC CATAAAATCT       4200

AAGTCTGATG TGACATTAAA AATGAGGTAA TAAGTCAAAA TCAACAAGCC AGTTGCTAGG       4260

TGAAATTTCA CTTCTTTCAT TTTCTTCATC CTATTATCTC CTATAAGAGC CTATCTTCTA       4320

CGGCGGCCAA ACAATCCATC TGCTAAATCT ATAGTCCAAT CAAAAGCTCC ACGATTAGGA      4380

CTCATCCCTT GATTGCCCCA ACCAGGGTAA ATTCCTGGGA CGCCCCAACC AGATATACCA      4440

CTTCTTCCAC CACCTCCCAT AGAATTTACG AGGTTGCCTC CTCTAACATC TTGCAACTCA      4500

GCTTCTGTCA ATTCCATTGT TTCTGCAAAT TGTAAATTTA ACATCTTTTA CACTCCTTCA      4560

ATTATCTTCA TTTGTAAACC ACTTCTGCGA CCTAGGATTT GCTTCAAGTG CTTTACAAGT      4620

ACAGTATAAC ACGAACATTG GCTTATTTTA GAAAATCGCA TATTTGATAT TTTTTCTTAT      4680

AGAAATTTCA GATTTGCGAT TTTGGTGAAT TTGATTACTT CTCTGGTATA ATAAAGTTAC      4740

TACTAATGAG GAGTGGAGAA ATATGAAGAA ACAAATTTTA ACATTATTGA AA              4792
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(2) INFORMATION FOR SEQ ID NO: 157:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2156 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 157:

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CCGTTCTCGG CGACGGCCAT CTGATGAAGC TATTTATGAG GGAAACTGGC AAGCTGGAGA        60

GTCAGAGTAT CTAGTCTTTC ACCGATTGCT GTGGCAGCAG ATGTGCAGGG AAAAGGAGTT       120

GCTCAAACCT TCTTAGAGGG CTTGATTGAA GGTTTTGATT ATCTTGATTT TCGCTCAGAT       180

ACGCATGCTG AAAACAAGGT TATGCAACAT ATTTTTGAAA AACTTGGTTT TAAACAAGTC       240

GGTAAGATGC CAGTAGATGG CGAACGCTTG GCCTATCAAG AATTAAAGAA ATAATGCAAA       300

AGAAGTATGT AAAAATCCTC TACTCCTCAC CAATTGGTAT TCTATCACTT GTAGCTGATG       360

ACCATTATTT GTATGGAATT TGGGTTCAGG AGCAGAAGCA TTTTGAGAGG GGACTAGGAG       420

ATGAAACGAT AGAAGAAGTT GTTAGTCATC CTATTTTAGA CCCAGTTATT GCTTGCTTAG       480
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1029

ATGATTACTT TAAAGGCAAG CCTCAGGATT TATCCAACTT GCTCTTGGCG CCAATCGGAA   540

CGAATTTTGA AAAGAGAGTT TGGGACTATT TACAGGGCAT TCCTTATGGT CAGACAGTGA   600

CCTATGGACA AATTGCTCAA GACCTGCAAG TGGCTTCTGC TCAAGCAATT GGTGGAGCAG   660

TGGGACGCAA TCCTTGGTCT ATCCTAGTAC CTTGTCATCG TGTGTTGGGA GCAGGCAAGC   720

GTCTGACAGG TTATGCTGCA GGAGTGGAAA AGAAAGCTTG GCTCTTGGAG CATGAAGGAG   780

TAGATTTTAA AGATAGAAGC AATAGAAGGA GAAGCACATG TTAGAATTTA TCGAATACCC   840

CAAATGTTCA ACTTGTAAAA AAGCAAAACA AGAATTAAAT CAATTAGGTG TGGACTATAA   900

AGCCGTCCAT ATCGTGGAAG AAACACCTAG CCAAGAAGTC ATTTTGAATT GGCTAGAAAC   960

CTCAGGATTT GAATTGAAGC AATTTTTCAA CACCAGTGGT ATCAAATACC GTGAATTAGG   1020

GCTAAAAGAT AAGGTAGGAA GTTTGTCAAA CCAAGAAGCG GCTGAGTTGC TAGCAAGTGA   1080

CGGTATGTTG TTAAAACGGC CCATTTTAGT AGAAAATGGA ACTGTTAAGC AAATCGGTTA   1140

TCGAAAATCT TATGAGGAAC TGGGACTGAA ATAGTTTTTA TCTATCTCTT TGATAGATAA   1200

AATATATAAC TTCCCTGTTT CAAAGTATGA TAAACTAGTA GGTAGACAAA GTCTGTATCT   1260

GACCGTAGCA AATAATTTCA TTGACGGCAG AAGCATGGTA GCATGAATCA TTATCAGAAG   1320

AGGATGTTTT TATGAATGTT ACAACGATTT TAGCATCAGA TTGGTACCAA AACTTGATGC   1380

AATTGATTCC GGATGGCAAG CTGTTTAGCC TACGTTCGGT CTTTGATGGA ATCCCTAGAA   1440

TTGTCCAACA ACTTCCAACA ACAATTATGT TGACAATTGG TGGTGCCCTT TTTGGCTTGG   1500

TTTTGGCGCT TCTTTTTGCC ATTGTGAAGA TCAATCGTGT CAAGATTTTA TATCCCTTGC   1560

AGGCCTTCTT TGTTAGTTTC TTAAAAGGGA CACcGATTTT GGTGCAACTC ATGTTGACCT   1620

ACTACGGAAT CCCTTTGGCT TTGAAAGCCC TCAATCAGCA ATGGGGAACT GGTCTCAATA   1680

TCAATGCGAT TCCAGCTGCA GCTTTTGCGA TTGTCGCCTT TGCCTTTAAT GAGGCAGCTT   1740

ATGCTAGTGA AAACCATTCGT GCAGCCATTC TCTCAGTTAA TCCTGGTGAG ATTGAGGCGG   1800

CACGCAGTCT GGGTATGACC CGAGCGCAAG TTTATCGACG AGTGATTATT CCTAATGCAG   1860

CGGTGGTAGC TACTCCAACC TTGATTAATT CCCTCATCGG TTTGACCAAG GGAACATCTC   1920

TAGCTTTTAG TGCGGGTGTT GTGGAAGTCT TTGCCCAAGC TCAGATTCTA GGTGGAGCTG   1980

ATTATCGCTA TTTTGAACGC TTCATCTCCG TTGCCCTTGT TTATTGGGTA GTCAATATCG   2040

GAATTGAAAG CCTCGGTCGT TTCATCGAGA GAAAAATGGC TATTTCTGCA CCTGATACAG   2100

TGCAACAGAT GTGAAAGGAG ACCTTCGTTA ATGATTAAGA TTTCGAATTT AAGCAA   2156

(2) INFORMATION FOR SEQ ID NO: 158:

1030
(i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 3140 base pairs
     (B) TYPE: nucleic acid
     (C) STRANDEDNESS: double
     (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 158:

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GTATCTCTAC ACATGTCTTC AATCGATTTT GTTGTCCTCC AATTTAATTC CTTATATGCT      60

TTGTCTGCAT TTGCATAACA AGTTGCAACG TCTCCTGAAC GTCTTGGAAC TATTTTATAA     120

GGAATAGGGA TCTTATTAAC ACTTTCAAAT GTATTTACAA GTTGTAATAC ACTAGTGCCT     180

TCTCCCGAGC CTAGGTTATA GATATAAACA TCTGTTTTTT CAGATACTTT TTCTAAAGCT     240

TTTATATGTC CTATTGCTAA ATCTACTACA TGGATATAAT CACGCACACC AGTACCATCA     300

AGCGTATCAT AATCATTTCC GAACACACTT AGCTCTGATA GCTTACCTAC CGCTACTTGT     360

GCAATATAAG GCATCAAGTT GTTAGGAATT CCTGAGGGAT CTTCCCCAAT CAAACCAGAC     420

TCATGAGCAC CAATTGGATT GAAATAACGA AGCAACGCAA TACTCCATTC TGAATCTGCC     480

ACATGAACAT CTTTTAAAAT TTGCTCAAGC ATCACTTTCG TATACCCATA AGGATTTGTC     540

GCACTTGTTT GCATCGTCTC AATTAGAGGT GACTGATTGT TAATTCCATA TACAGTCGCA     600

CTTGAAGAAA AGACAATCTT TTTAACATTA AATTCTGACA TCACTTCAAC AAGTGCCAAT     660

GTACTCATAA TATTATTTTT GTAGTACATC ACAGGCTTTT GCACGGATTC TCCGACAGCT     720

TTATAACCTG CAAAATGAAT TGCAGCATCA ATCGATTCTT GTTCAAATAC CTTTCTCAAT     780

GCTTGTTTAT CACAAACATC TAATTCGTAA AACACGGGAC GTATTCCTGT AATTGCTTCA     840

ATACGGTCTA GCACCAAGAT GCTAGAGTTC GAAAGGTTGT CGACAATGAT AACTTCCTTT     900

CCTAAATTTA GTAATTCTAC TACGGTATGG CTACCAATAT AACCAGCTCC GCCTGTTACC     960

AATATTGCCA TCTGGGTTTC CTCCTAATTA ATTCCAACCG ACTTAACAAA TCTCATAAAC    1020

GCTTCATGCC CAGACGGTGT ATTCTTATAA ACTCCTGCAT CTTCCAGAAC TCTCGCAAAC    1080

ACTTGTCCTG CTTCGTGTTG AACTACGCTA TTAACCTCTT CTTTATTAAT GCGAGGATAT    1140

TTTTCTTTCA ATTGGTCGGC CCATTCTAAA TGATAATCCG CAATTGCATT ATCCTCTCCT    1200

AAAAGATATT TTCCAACTTC TTCTAACTCT GGTTTCAAAC GAGGTGGTAA TATCGCAAGT    1260

CCCATCACTT CGATTAACCC GATATTTTCC TTTTTAATAT GTTGTACATC TTGATGAGGA    1320

TGGAAAACAC CATCTGGGTA TTGTTCAGTA GTATGATTAT CTCTTAGAAC AATATCTAAT    1380

TCGTATCTCC CGTCCACTTT ACGAGCAATA GGAGTCACCG TATGGTGTGG GACATCTTCA    1440

GTCATAGCAA TGATGTCTAC TTCTAAATCT GAATATTCTC TCCACTTATT TAGAATTTTA    1500
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1031

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GTAGCTAAAT CTAACAAGCG ATTTTTATTT TCACTTTGTA ACCTAATTAC TGACATTGGC      1560

CATTTTACAA TACCAGCATT AACATCCTCA AAGTCTTTAA AACAAAATTC ACTCTCAAAT      1620

TTTGCTTTTT CCATTGGGAA AATATGTTTC CCTCCCTGGT AGTGGTTATG ACTAAGAATG      1680

GAGCCTCCTG AGATAGGAAG ATCAGAATTT GAACCAGCAA AATATCCTGG CAAAATATCA      1740

ACAATCTCCA ATAATTGTTC AAATGTTTTA GAGGTAATAG CCATTGGTAC ATGTTGACTA      1800

TTCAAAAATA TCGCATGCTC ATTAAAGTAT GAGTAGGGAG AATACTGGAA TCCCCATACT      1860

TCGTCACCAA GTTTCAACCG AATAATTCTA TGATTCGAAC GTGCTGGATA ATTTATTCGC      1920

CCCTGATATC CTTCATTTTC CATACATAGT AAACATTTGG GATAATTAGT TGCTTTTACT      1980

AATTTTTCAG CAGCAATTGT TTTTGGATCT TTTTCGGGTT TTGACAAATT TATCGTAATC      2040

TCTAGCTCTC CGTATTTAGT TGATGCTCGA AACTCAATAT TCTTAGCAAT AGCAGAAGTT      2100

TTAATATAAT CACTATCTTT ACTTAACTTA TAAAACTCTT CAACTGCTTC TTGAGGTGAT      2160

ATATCATATG AACTCCAAAA AATATCATTT AATCGACTAG GTAAAGGAAC TATGAAATTC      2220

ATTAACTCTG CTCCTAAACA TTCCTTTTCC TCGATTAAAT CTTTAATTTT ACCGTTTTTT      2280

AAGGCGATTT CCACTAAGTA ATCTTTTATT TGTTTCAGGT CATTTTCATC GGAAATGCGA      2340

TCAATTCCCT CCTCACCTAT TAACGCTAGT ACTCTATTTT TCACATATAT TTTGTCAATT      2400

TCATTATACA TTCCGTATTC AATTACTCTA TCAACAAAAT TATCAATAAT TGTTTTCATA      2460

TATTTTTCTT TCTAATTTAT GTTCCCATAT TTTCTATACA TTATCCATTT ATAAATTGCT      2520

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GAAACGTTCC CATCATCTTC AAATATGTAA TTCATTATTT TCTTTTCCAT ATTTATACTA      2640

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TCTCTATAAC AAGATATAGC CCTATTCATA TGCAGTCCGA TAACTTCATG AAGTATTTTT      2760

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ATTTCAACAA TTCTATCCCC AATACGTTCA ATGTCAGTTG ATATTTTTAT TACACTAATA      2880

ATTCTTCTTA AGTCATATGA AACAGGATGT TGTAAACAAA TTAACTCATA TCCTTTTTTA      2940

TCAATATTTA GAACTGACTC ATTTATGATT AAATCTTCTT TAATCAATTC TACTCGTTCT      3000

TCATTTGATA AATATTCAAA TAACTTCTCA TATTTATCAA GCACAGATAC CCAAATGGTC      3060

TCTAAATTAT TTGATAATTC TATAATTTCA TTTTCTAAAT ATAACCTTAA CATTTAGGTA      3120

CCTCTTCTTA ACAAAGTTCG                                                 3140
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(2) INFORMATION FOR SEQ ID NO: 159:

1032
(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 9048 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 159:

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CCGGATGATT TCCTGGTCAG ATAGGGGGAA AGTGACTTCC TCAGCAATCG CGCGTAGAGT        60

AGGATTCCCT TCACGGATAA TATCGTTCAT ATCAATTAAG TGAGCAGCTT TTGTAATACG       120

TTCTATTGCA GACATTTTCT CTCCTTATAT TATGTTTAGT GCAGTTAGCT ACTGCCAAAG       180

CCCAAGTGGT ATACTTGGAA TAAGCCACTG TGGATTAGTT CATTTTCTTT CATTACCTCT       240

ACATGATATC ACAAAATGAC AAGAATTGAA AGCATTATGG CATTTAGGAT TTATAGAAAA       300

TAGATAGGAA GTTCAATTCA ATTGTGAAAG AAATACTTAT CTGTGATATA ATAAAAAGAA       360

AAGGCTTGCA TAAGAAAGTA GGGAGAACGA AGATACAAAG AAGACAAAAT CGAAATCAGG       420

GTGGTTTAGC TTTTCGTTTT ATGAAGGGCT TGGTAAACTT TTTAGGAGTT ATCGCAAGTG       480

GAGCAATAAG GGATTTGTGG CGATACTCTT GCTAGCAGTT GGTTTATCAA TGGGCTTGGT       540

CTTGTTGTTT GAAAGCTTCC AAGGAATCCC TTGACTAGTC AAAAACGAGA TACTATTTCT       600

CAAGAGGGGA CTAAGCAAAA GTCTCAGGAG TAGGAAGAGG AAAAAACTGC CAGAATTATG       660

GCCCACGGGG ATTTGCTCTA CCACGATGGA CTTTTCTTTT CAGCTAAAAA AGAAGACGGT       720

ACCTATGACT TTCATGAAAA TTTTGAGTAT GTGACTCCTT GGCTCAAGCA AGGGGACTAA       780

GCAGCAGATT TAGCTATTGG TGATTTTGAA GGAACCATTA ATAAGGATCA TTATTTAGCG       840

GGTTATCTTC TCTTTAATGC TCCTGTTGAA GTTATGGATG CTATTAAGGA GGCAGGTTAT       900

CATGTGCTGG ATTTAGCTCA TAATCATATT TTGGATTCGC AAAATTGAGG GAGTTATTTCA      960

ACGGCCGATA TTATTGAGAA AGCTGGAATC ACTCCAATCG GAGTTTATAC GCACGAACCA      1020

CGTGATCAGG CTCCGCTGGT CATTAAGGAA GTGAATGGTA TCAAGGTTGC ATTGTTAGCC      1080

TATTCCTATG GTTTCAATGG AATTGAGCAG TATATTTCTC AGGAAGACTA TAATCGTTAT      1140

CTTTCAGATT TAAACGAAGA TAAGATGAAG GTTGAAATTG AACGGGCAGA GAAGGAAGCA      1200

GATATCACCA TTATCATGCT TCAGATGGGT GTTGAGTATC GATTGGAACC AACTGAAGAA      1260

CAAAAAGCTC TTTATCACAA GATGATCGAT TTGGGAGCGG ATATTATCTT TGGAGGGCAT      1320

CCTCACGTTG TTGAACCATC TGAAACGGTT GAAAAAGATG GAGATAAGAA ACTCATTATC      1380

TATTAAATGG GGAACTTCAT TTCCAATCAA CGAATTGAAT CTATGGGAGA TGAAGAGAAT      1440

GCTAAGTGGA CTGAACGTGG TGTTCTCATG GATGTCACCA TCAAGAAGAA GGATGGAAAA      1500
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1033

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ACAACTATCG GAACAGCTAA AGCTCATCCT ACTTGGGTCA ATCGAACACC AAAGGGAACC      1560

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GAGGATGGCA GTCATCGTGA CCAGTTAGAT GAAGCGACTA AGGAACGAAT TGATACAGCC      1680

TATAAAGAAA TGAATGAACA TGTGGGATTG AAGTGGTATT AGCTTGAATC CAGAGGAAAG      1740

TAAATGATGA TTAAGGTAAT TGCGACAGAT ATGGATGGGA CCTTGCTGGA TGCTAGAGGT      1800

CAGCTTGATC TCCCACGATT GGAAAAGATT TTAGATCAGT TGGATCAAAG GGGCATTCGT      1860

TTTGTCATTG CGACGGGCAA TGAAATTCAC CGCATGAGAC AACTACTGAG TCCCTTGGTG      1920

GATCGAGTGG TTCTGGTTGT TGCTAATGGC GCTCGTATTT TTGAAAACAA TGAATTGATT      1980

CAGGCTCAGA CATGGGATGA CGCCATTGTC AACAAGGCTT TGACTCATTT CAAGGGTCGA      2040

GCGTGTCAGG ACCAGTTTGT TGTAACGGGG ATGAAGGGTG ATTTTGTCAA GGAAGGTACG      2100

ATTTTTACAG ATCTTGAAAG TTTTATGACT CCAGAAATGA TTGAAAAATT CTACCAACGG      2160

ATGCAATTTG TGGATGAATT AACATCTGAC CTCTTTGGTG GTGTGCTCAA GATGAGCATG      2220

GTTGTTGGTG AGGAACGTTT GAGTTCGGTT TTGGAAGAAA TCAATGCTCT CTTTGATGGC      2280

CGTGTCCGAG CTGTATCCAG TGGCTATGGT TGCATTGATA TCCTCCAAGC TGGGATTCAT      2340

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GCTTTTGGTG ATAGTGAAAA TGATGTTGAA ATGCTTGAAA TGGCTGGAAT TGCCTATGCG      2460

ATGGAAAATG CTGATGAGAA AGCCAAAGCT GTGGCGACTG CTCTAGCACC AGCCAACAGC      2520

CAAGGAGGAG TTTATCAAGT CTTGGAAAAC TGGTTAGAAA AAGGAGAATG AAGTGGCAGT      2580

ACAGTTATTA GAAAATTGGC TCCTAAAGGA ACAAGAAAAA ATTCAAACTA AGTATCGTCA      2640

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GTATTATCCT CTACAGGAGC TATTTGGGAC TTCAAAGACG ATTGTCAATC GAGGAATTCG      2760

TGGCTATCAG ACAGGACTGT TACTAGAGAA CCTTGATGCT CATCTATATG GTGGAGCAGT      2820

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GGCTCTCAAT AATCTCGAAG CTATCATTCA ATCCGTTGCT CGCGATTATC CATTGACAGA      2940

GATTAAATTG CTTTCCATTT TGCCTGTCAA TGAGAGAGAG GAGTACCAGC AGGCAGTCTA      3000

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CTATATGCAG GTGGAATTTG TGCCAGTATT TGATTGTTTG ACAGACCAAG CAGGCCAACT      3120

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AAAATCCTTG AAAGACTATC TTTACTAAAT AGCTAAATAA TGTTAAATTT GAGCATAATA      3240
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1034

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TCTTGTAAAA AATTCTAAAA TCCTTTAAAA TAAAAAGTGA CGGAGGAATT TATGAATGTA    3300

AATCAGATTG TACGGATTAT TCCTACTTTA AAAGCTAATA ATAGAAAATT AAATGAAACA    3360

TTTTATATTG AAACCCTTGG AATGAAGGCC TTGTTAGAAG AATCGGCCTT TCTGTCACTA    3420

GGTGACCAAA CGGGTCTTGA AAAGCTGGTT TTAGAAGAAG CTCCCAGTAT GCGTACTCGT    3480

AAGGTAGAGG GAAGAAAAAA ACTAGCTAGA TTGATTGTCA AGGTGGAAAA TCCCTTAGAA    3540

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TACGCTTTTG AAATTTTCTC ACCAGAAGAT GATTTGATTT TGATTCATGC GGAAGATGAC    3660

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TCTTTAAGTA AATTTGAGAT TTCTATGGAA TTACATCTCC CAACTGATAT CGAAAGTTTC    3780

TTGGAATCAT CTGAAATTGG GGCATCCCTT GATTTTATTC CAGCTCAGGG GCAGGATTTG    3840

ACTGTGGACA ATACGGTTAC CTGGGACTTA TCTATGCTCA AGTTCTTGGT CAATGAATTA    3900

GACATAGCAA GTCTTCGCCA GAAGTTTGAG TCTACTGAAT ATTTTATTCC TAAGTCTGAA    3960

AAATTCTTCC TTGGTAAAGA TAGAAATAAT GTTGAATTGT GGTTTGAAGA AGTATGAAGT    4020

GGACCAAGAT TATTAAAAAA ATAGAAGAAC AAATCGAGGC AGGGATTTAT CCCGGAGCCT    4080

CTTTTGCGTA TTTTAAGGAC AATCAATGGA CAGAGTTCTA TTTAGGCCAG AGTGACCCAG    4140

AGCATGGCTT GCAGACTGAG GCAGGACTAG TTTATGACCT AGCTAGTGTC AGCAAGGTTG    4200

TTGGGGTTGG CACAGTTTGT ACCTTCTTGT GGGAAATAGG TCAATTAGAT ATTGATAGAC    4260

TGGTAATAGA TTTTTTACCT GAGAGTGATT ATCCAGACAT CACTATTCGC CAGCTCTTGA    4320

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AGCTTGCTGT TCCAACAGTT AGAGGTGTAG AGGCAGGCAT AGTGCATGAT CCCAAGGCTC    4620

GTCTCCTGGG TAGACATGCT GGGAGTGCTG GTTTATTTTC GACTATAAAG GATTTACAAA    4680

TCTTTTTAGA ACACTATTTA GCAGATGATT TTGCAAGAGA CTTAAATCAA AATTTTTCTC    4740

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TGATGAACTT GATTCGCAAA GAAGAGTAAG GAGAGACATG TCAAATAGTT TAAAAGGGAC    4980

TTTACTAACA GTTGTGGCTG GTATTGCTTG GGGGTTGTCA GGAACGAGTG GCCAATACCT    5040
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1035

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AATGGCACAC GGAATTTCGG CTCTGGTCTT GACTAACTTG CGTCTTTTAA TCGCTGGTGG      5100

AATTCTCATG CTCTTGGCTT ATGCTACTGC AAAGGATAAA ATACTGGTCT TTTTAAAGGA      5160

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CGCCTATCTG TCTGCTATTC AGGAGACCAA TGCGGGAACA GCGACGGTGC TTCAGTATGT      5280

TTGTCCTGTC GGAATTTTAA TTTATAGCTG TATCAAGGAT AGGGTGGCAC CGACACTGGG      5340

AGAGATAGTT TCCATCATAT TCGCCATCGG AGGAACCTTC CTGATCGCAA CACATGGGCA      5400

GTTGGACCAG TTATCCATGA CACCTGCTGG TCTGTTCTGG GGTCTCTTTT CTGCCTTGAC      5460

TTATGCTCTG TATATCATTT TACCCATAGC CTTGATTAAA AAGTGGGGGA GCAGCTTGGT      5520

CATTGGTGTG GGAATGGTCA TAGCAGGTTT GGTCGCCCTT CCTTTTACAG GGGTTCTACA      5580

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GCTCTAAGAC GCCTTCTTCG ACTAATAGAG ATACGGCTTG GCGGAGGGTC ATGCGACTGA      6480

CCGCAAACTG CTCAGCTAAA TCTCTTTCAC TGGGAAGCCT CTCACCAATA GCCCAACGGT      6540

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TCACTTCATT TCTATCTTTT CTCTATTGTA CCCCAATAAA CTAGAAAAAG TCAAACTTCG      6660

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TTGAGAAAGG AAAAAGATGA GCAACATTTC AACTGATTTG CAAGATGTAG AAAAAAATCAT      6780
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                              1036
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TGTTTTTTCA GAACTAAAAA GCCATAAAAT TTCAGCTGCT GAAGTTCGTG AAGTCAATCC      6900

TGTAGGAATT ATTCTATCAG GTGGTCCAAA TTCTGTATAT GAAGATGGTT CATTTGATAT      6960

TGACCCAGAA ATCTTCGAAC TCGGAATTCC AATTTTGGGA ATCTGTTATG GTATGCAGTT      7020

ATTGACCCAT AAACTTGGAG GAAAAGTTGT TCCTGCAGGT GATGCTGGAA ATCGTGAATA      7080

CGGTCAATCA ACCCTAACTC ACACACCATC AGCGCTTTTT GAATCAACAC CTGATGAACA      7140

GACTGTTTTG ATGAGCCATG GTGATGCGGT TACTGAGATT CCTGCTGACT TTGTTCGTAC      7200

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TATCCAATTC CACCCAGAAG TTCGTCATTC TGTATACGGA AATGATATCC TTCGTAACTT      7320

TGCCCTTAAC ATTTGTAAGG CTAAAGGTGA CTGGTCAATG GATAATTTCA TTGACATGCA      7380

GATCAAAAAA ATTCGTGAAA CCGTCGGTGA TAAACGTGTC CTTCTTGGTC TATCAGGTGG      7440

TGTTGACTCA TCTGTCGTTG GGGTTCTTCT CCAAAAAGCG ATTGGCGATC AATTGATCTG      7500

TATCTTCGTA GACCACGGTC TTCTTCGTAA AGGCGAAGCT GATCAAGTTA TGGACATGCT      7560

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GGATTAAAAA CTGTAACTGG GATTAAAACG GGAACATTTG CTAAAAAGAA TAAATTGAAT      8400

AATAGTTCCA AGTGGTTTAC ATTTGGACAA AAAATTAGAC CGTAGTTTTC AAGCTGCGGT      8460

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CTAAGCTCGA GAAAGGACAA ATTTTGTCCT TTCTTTTTTG ATATTCAGAG CGATAAAAAT      8580
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1037

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CCGTTTTTTG AAGTTTTCAA AGTTCCGAAA ACCAAAGGCA TTGCGCTTGA TAAGTTTGAT      8640

GAGATTATTG GTCGCTTCCA ATTTGGCGTT AGAATAGTGT AGTTGAAGGG CGTTGACGAT      8700

TTTCTCTTTG TCCTTTAGAA AGGTTTTAAA GACAGTCTGA AAAAGAGGAT GAACCTGCTT      8760

TAGATTGTCC TCAATGAGTC CGAAAAATTT CTCCGGTTCC TTATTCTGAA AGTGAAACAG      8820

CAAGAGTTGA TAGAGCTGAT AGTGATGTTT CAAGTCTTGT GAATAGCTCA AAAGCTTGTT      8880

TAAAATCTCT TTATTGGTTA AATGCATACG AAAAGTAGGG CGATAAAAAT GTTTATCGCT      8940

GAGTTTACGA CTATCCTGTT GTATGAGCTT CCAGTAGCGC TTGATAGCCT TGTATTCATG      9000

AGACTTTCGA TCCAATTGAT TCATGATTTG AACACGCACA CGACTCGG              9048
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(2) INFORMATION FOR SEQ ID NO: 160:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 10399 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 160:

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GTACCTTTAT TGATGAATGG ACTGTTTAAA TCAGTAGCAC GCCAACCAGA TATGCTTTCT        60

GAGTTTCGTA GTTTGATGTT TTTAGGTGTT GCCTTTATTG AAGGAACTTT CTTTGTAACT       120

CTTGTCTTCT CATTTATTAT CAAATAAATA CATGGAACGA GAAGAAAAGG GAGGATTTTA       180

GATGGAAGAA AGTATTAATC CAATCATCTC TATTGGTCCT GTTATCTTCA ATCTGACTAT       240

GTTAGCCATG ACTTTGTTGA TTGTGGGAGT TATTTTTGTC TTTATTTATT GGGCAAGCCG       300

CAATATGACC TTGAAACCCA AAGGAAAGCA AAATGTACTT GAGTATGTCT ATGACTTTGT       360

TATTGGATTT ACAGAACCTA ACATTGGTTC GCGCTACATG AAAGATTACT CACTCTTTTT       420

CCTTTGTTTA TTCCTTTTCA TGGTGATTGC CAATAACCTT GGCTTAATGA CAAAGCTTCA       480

AACGATCGAT GGGACTAACT GGTGGAGTTC GCCAACCGCT AATTTACAGT ATGACTTAAC       540

CTTATCTTTT CTTGTCATTT TGTTGACACA TATAGAAAGC GTTCGTCGTC GTGGATTTAA       600

AAAAAGTATA AAATCTTTTA TGAGTCCTGT TTTTGTCATA CCGATGAATA TCTTGGAAGA       660

ATTTACAAAC TTCTTATCTT TGGCTTTGCG GATTTTTGGG AATATCTTTG CAGGAGAGGT       720

CATGACGAGT TTGTTACTTC TTCTTTCCCA CCAAGCTATT TATTGGTATC CAGTAGCCTT       780

TGGAGCTAAT TTGGCTTGGA CTGCATTTTC TGTCTTTATT TCCTGCATCC AAGCTTATGT       840

TTTTACTCTT TTGACATCTG TGTATTTAGG GAATAAGATT AATATTGAAG AGGAATAGAA       900
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                                    1038
AGGAGTAACT GATGCACGTA ACAGTAGGTG AATTAATTGG TAATTTTATT TTAATCACTG      960

GCTCTTTTAT TCTTTTGCTA GTCTTGATTA AAAAATTTGC ATGGTCTAAT ATTACAGGCA     1020

TTTTCGAAGA AAGAGCTGAA AAAATTGCTT CAGATATTGA CAGAGCTGAA GAAGCCCGTC     1080

AAAAAGCAGA AGTATTGGCT CAAAAACGCG AAGATGAATT GGCTGGTAGC CGTAAAGAAG     1140

CTAAGACAAT CATTGAAAAT GCAAAGGAAA CAGCTGAGCA AAGTAAGGCT AATATCTTAG     1200

CAGATGCTAA ACTAGAAGCA GGACACTTAA AAGAAAAAGC CAATCAAGAA ATTGCTCAAA     1260

ATAAAGTAGA AGCTTTACAG AGTGTTAAGG GTGAGGTCGC AGATTTGACC ATCAGCTTAG     1320

CTGGTAAAAT CATCTCACAA AACCTTGACA GTCATGCCCA TAAAGCACTC ATTGATCAGT     1380

ATATCGATCA GCTAGGAGAA GCTTAATGGA CAAGAAAACA GTAAAGGTAA TTGAAAAATA     1440

CAGCATGCCT TTTGTCCAAT TGGTACTTGA AAAAGGAGAA GAAGACCGTA TCTTTTCAGA     1500

CTTGACTCAA ATCAAGCAAG TTGTTGAAAA AACAGGTCTG CCTTCTTTTT TAAAACAAGT     1560

GGCAGTAGAC GAGTCGGATA AGGAAAAAAC AATTGCTTTT TTCCAAGATT CTGTGTCGCC     1620

TTTATTACAA AACTTTATCC AGGTTCTGGC CTACAATCAC AGAGCAAATC TTTTTTATGA     1680

TGTGCTTGTA GATTGCTTGA ACCGACTTGA AAAAGAAACA AATCGATTTG AAGTGACGAT     1740

TACGTCTGCT CATCCTCTAA CTGATGAACA GAAGACTCGT TTGCTCCCTT TGATTGAGAA     1800

AAAAATGTCT CTGAAAGTAA GGAGTGTAAA AGAACAAATC GATGAAAGTC TCATTGGTGG     1860

TTTTGTCATT TTTGCCAATC ACAAGACAAT TGATGTGAGT ATTAAACAAC AACTTAAAGT     1920

TGTTAAAGAA AATTTGAAAT AGAAAGTGGT GTTCTTTTGG CAATTAACGC ACAAGAAATC     1980

AGCGCTTTAA TTAAGCAACA AATTGAAAAT TTCAAACCCA ATTTTGATGT GACTGAAACA     2040

GGTGTTGTAA CCTATATCGG GGACGGTATC GCGCGTGCTC ACGGCCTTGA AAATGTCATG     2100

AGTGGAGAGT TGTTGAATTT TGAAAACGGC TCTTATGGTA TGGCTCAAAA CTTGGAGTCA     2160

ACAGACGTTG GTATTATCAT CCTAGGTGAC TTTACAGATA TCCGTGAAGG CGATACAATC     2220

CGCCGTACAG GGAAAATCAT GGAAGTCCCT GTAGGTGAAA GTCTGATTGG TCGTGTTGTG     2280

GATCCGCTTG GTCGTCCAGT TGACGGTCTT GGAGAAATCC ACACTGATAA AACTCGTCCA     2340

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GGTTTGAAAG CTATTGACGC CCTTGTACCG ATTGGTCGTG GTCAACGTGA GTTGATTATC     2460

GGTGACCGTC AGACAGGGAA AACAACCATT GCGATTGATA CAATCTTGAA CCAAAAAGAT     2520

CAAGATATGA TCTGTATCTA CGTCGCGATT GGACAAAAAG AATCAACAGT TCGTACGCAA     2580

GTAGAAACAC TTCGTCAGTA CGGTGCCTTG GACTACACAA TCGTTGTGAC AGCCTCTGCT     2640

TCACAACCAT CTCCATTGCT CTTCCTAGCT CCTTATGCTG GGGTTGCTAT GGCGGAAGAA     2700
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1039

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TTTATGTATC AAGGTAAGCA TGTTTTGATT GTATACGATG ATCTATCAAA ACAAGCGGTA    2760

GCTTATCGTG AACTGTCGCT CTTGCTTCGT CGTCCTCCAG GTCGTGAAGC CTTCCCAGGG    2820

GATGTTTTCT ATCTCCACAG CCGTTTGCTT GAGCGCTCAG CTAAAGTTTC TGATGAACTT    2880

GGTGGTGGAT CAATTACAGC CCTACCATTT ATCGAGACAC AAGCAGGAGA TATCTCAGCC    2940

TATATCGCAA CCAACGTGAT TTCTATCACT GATGGACAAA TCTTCCTTGG CGATGGCCTC    3000

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TACCGTGAGT TGGAAGCCTT TACTAAGTTT GGTTCTGACT TGGACGCAGC AACACAGGCT    3180

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CCAGAGATTT TGGAAACCAT TCGTGATACA AAAGACTTGC CAGAAGAAGC AGTCTTGGAT    3420

GCTGCGATTA CAGAGTTTCT CAATCAATCT AGCTTCCAAT AAGAATAGAG GTGTCAGATG    3480

GCAGTATCTC TAAATGATAT TAAAACAAAA ATCGCCTCAA CAAAAAATAC GAGTCAAATC    3540

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ATCAATGATT TGACAATTCA GTATAACCGT GCCAGACAGG CGGCGATTAC ACAAGAAATT    4320

ACAGAAATCG TAGCAGGTGC TAGTGCCTTA GAATAGGCTC TAGTCCAGCT CGTATGAAAA    4380

TGAACTTAGG ACCTAGTTGA GCTAGGAACC GACAGTATCT TATATAGAAT AGGAGAAGGA    4440
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                                1040
GATGAGTTCA GGTAAAATTG CTCAGGTTAT CGGTCCCGTT GTAGACGTTT TGTTTGCAGC    4500

AGGGGAAAAA CTTCCTGAGA TTAACAATGC ACTTGTCGTC TACAAAAATG ACGAAAGAAA    4560

AACAAAAATC GTCCTTGAAG TAGCCTTGGA GTTAGGAGAT GGTATGGTTC GTACTATCGC    4620

CATGGAATCA ACAGATGGGT TGACTCGTGG AATGGAAGTA TTGGACACAG GTCGTCCAAT    4680

CTCTGTACCA GTAGGTAAAG AAACTTTGGG ACGTGTCTTC AACGTTTTGG GAGATACCAT    4740

TGACTTGGAA GCTCCTTTTA CAGAAGACGC AGAGCGTCAG CCAATTCATA AAAAAGCTCC    4800

AACTTTTGAT GAGTTGTCTA CCTCTTCTGA AATCCTTGAA ACAGGGATCA AGGTTATTGA    4860

CCTTCTTGCC CCTTACCTTA AAGGTGGTAA AGTTGGACTT TTCGGTGGTG CCGGAGTTGG    4920

TAAAACTGTC TTAATCCAAG AATTGATTCA CAACATTGCC CAAGAGCACG GTGGTATTTC    4980

AGTATTTGCT GGTGTTGGGG AACGTACTCG TGAGGGGAAT GACCTTTACT GGGAAATGAA    5040

AGAATCAGGC GTTATCGAGA AAACAGCCAT GGTCTTTGGT CAGATGAATG AGCCACCAGG    5100

AGCACGTATG CGTGTTGCCC TTACTGGTTT GACAATCGCT GAATACTTCC GTGATGTGGA    5160

AGGCCAAGAC GTGCTTCTCT TTATCGATAA TATCTTCCGT TTCACTCAGG CTGGTTCAGA    5220

AGTATCTGCC CTTTTGGGTC GTATGCCATC AGCCGTTGGT TACCAACCAA CACTTGCTAC    5280

GGAAATGGGT CAATTGCAAG AACGTATCAC ATCAACCAAG AAGGGTTCTG TAACCTCTAT    5340

CCAGGCTATC TATGTGCCAG CGGATGACTA TACTGACCCA GCGCCAGCAA CAGCCTTCGC    5400

TCACTTGGAT TCAACAACAA ACTTGGAACG TAAGTTGGTA CAATTGGGTA TCTACCCAGC    5460

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GCCAGGTTCT TATGTTCCAG TTGCTGAAAC TGTACGTGGC TTTAAGGAAA TCCTTGATGG    5760

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TCGTGACACC AGATGGTCTC GTCTATGATC ACCATGCCAG CTATGTATCG GTTCGAACTC    5940

TGGATGGTGA GATGGGGATC TTGCCACGAC ATGAAAATAT GATTGCGGTT TTAGCAGTTG    6000

ATGAAGTAAA GGTAAAACGT ATCGATGATA AAGATCACGT GAACTGGATT GCAGTAAACG    6060

GTGGCGTTAT TGAAATTGCC AATGATATGA TCACAATCGT CGCTGACTCT GCAGAACGTG    6120

CTCGTGATAT CGATATCAGT CGTGCAGAAC GTGCCAAACT TCGTGCAGAA CGTGCAATTG    6180

AAGAAGCACA AGACAAACAT TTGATTGACC AAGAACGTCG TGCTAAGATT GCTTTGCAAC    6240
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1041

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GTGCTATTAA CCGTATTAAT GTCGGAAATA GACTATAAGA AAAAATGAAC TTGAAAATAC      6300

CAAGTTCATT TTTTATGGTG TTTTAAGGAG CAAAACGGAT GCAGACTGCT TCGGGAACAT      6360

GGAAGTCGTT GGAGAGTTCT GCTAGACGAC CATTGTCACA ATTACGTTTA AAGACAGTTG      6420

CATTGTCAGA GTCTTGATGG ACAACAATGA GAAATTTTTG GTCGGGTGTC AAATCAAAAT      6480

CACGTGGAGT CTGACCATGC GTTGGAACGA TTTCTAATAA CTCTAAGCTA CCGTCCGCAA      6540

GGATGGTATA TACTGCGATA GAATCATGGC CACGGTTAGA AGCGTAGAGG TATTTACCGT      6600

CTTTAGAGAG ATGAATAGCA GCGGTTCCAT TAAAGCCTTC GTAAGCTTCC GGTAAAGTTG      6660

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TATTGAGTTC ACAAATGAGA TAAGCGATTT TATAGTGGTT ATGGAAAATG ATATGGCGTG      6780

AGCCTGCTCC TGGCTTGCTG TGATAGGTAT AGAGCTTAGA TAATTTTCCT TCTTGATCGA      6840

GGTCATAGGT GATGACTTGG TCAGTTCCCA AGTCGCAGGT CACTAGATAG TGGTCAGGTG      6900

TTAAATCTGT ATAGTGAACA TGGGGGGAAG CTTGATTTTC ATGTGGACCT TGGCCACTGT      6960

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GTCCCTTGTG ATAGTTAGCT GCGTAAACCA AATCACGCTT TTCATCGACA GCAACATAAC      7080

AGTGGGGAGC TCCTTCTTCA ACAACATGAT TTAACACAGT CCCGTCAGTT TGATAGGCTG      7140

CAATTCCCCC CTTATCGTCT TGGCTACCAA CAGTGTATAA ATGTTGGTGC TGGTCAAAGG      7200

CAAGGTAGGT TGGACTTGGC TCAGCTGCAA AAAGTTCTAG ATTTGAAAGC TGACCAGTTT      7260

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GTAACCTTAT TATTGGGACT GAATCTTTTT ATTTTAAGTA AGATTAGTTT TCTATTTTCA      7620

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ATCACTATTG TCTTTGTTAT CATCGCTCTC TTTATCATTT GGGGCTTGGC AGTCGCCATT      7800

CCAAATCTGC AACGTCAGGT TTTGACCTTT GCAAGAAACG TTCCTGTTTA CTTAGAAGAT      7860

ATAGATAGGA TTGTTAATGG ATTGGTAGCC CAGCACCTGC CAGATGATTT CAGACCTCAA      7920

TTAGAGCAAG TTTTGACCAA TTTTTCTAGC CAGGCTACAG TTTTGGCAAG TAAGGTTTCA      7980
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1042

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TCTCAGGCAG TCAACTGGGT GAGTGCCTTT ATTAGCGGGG CTTCTCAAGT GATTGTTGCC      8040

TTGATTATCG TTCCTTTCAT GCTCTTTTAT CTCTTGCGTG ATGGGAAAGG CTTGCGTAAC      8100

TATTTGACCC AATTCATTCC AAGAAAATTG AAGGAACCTG TTGGACAAGT TTTATCAGAT      8160

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ACTGCTGGTA TTTTAAATCT GGTCCCTTAT CTTGGTAGCT TTCTAGCCAT GCTTCCTGCT      8340

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ATCCACCCTA TTAATGTTCT CTTTGTTTTG TTAACTTCAG GATCTATGTT TGGTATCTGG      8520

GGAGTTTTAC TTGGTATTCC GGTTTATGCC TCTGCTAAGG TTGTCATTTC AGCCATTTTC      8580

GAATGGTATA AGGTAGTCAG TGGTCTATAT GAATTAGAGG GTGAGGAAGT CAAGAGTGAA      8640

CAATAGTCAA CAGATGTTAC AGGCTTTGGA GGAGCAAGAT TTAACTAAGG CTGAGCATTA      8700

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TGAAGGGATT GGTTTCTATC CTCAGGCCAA GGAAATTTAC CTGAAAATTG TAGAGGATTT      8820

TCCAGAGGTT CATCTTAATC TAGCTGCAAT TGCTAGCGAG GATGGTCAAA TAGAAGAAGC      8880

CTTTACCTAT CTTGAGGAAA TCCAAGCTGA CAGTGACTGG TATGTCTCGT CTTTGGCTCT      8940

GAAGGCAGAC CTTTACCAGC TGGAAGGTTT GACAGATGTG GCACGTGAGA AATTATTGGA      9000

GGCCTTGACC TACTCAGAGG ATTCTCTCTT GATATTGGGT TTGGCAGAGT TGGATAGTGA      9060

GTTGGAAAAT TACCAAGCGG CTATTCAAGC CTATGCCCAG TTAGATAATC GCTCGATTTA      9120

TGAGCAAACG GGCATTTCCA CCTATCAACG AATTGGCTTT GCCTATGCTC AGTTAGGGAA      9180

ATTTGAAACG GCTACTGAGT TTTTAGAAAA AGCCCTGGAG TTAGAATACG ATGACTTAAC      9240

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TCAAGAAATG GACGATTTGG ATACTGCTTA TGAGTATTAT CAAGAGTTGA CAGGAGATTT      9720

GAAGGACAAT CCAGAATTTC TGGAACACTA TATCTATCTC TTGCGTGAAT TGGGACATTT      9780
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1043

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TGAAGAAGCA AAAGTCCATG CTCACACTTA CTTAAAACTG GTTCCAGATG ATGTGCAAAT      9840

GCAAGAACTG TTTGAGAGAT TGTAAGAATG TTTAACCCAA ATCATTCATA CCTCTCTCAA      9900

CTAGATGTAA CTTACAAAAC CCCTGACCTC ATGAGCCACT TTCTTCCTCC TCATGAGGTC      9960

AGTTTTACTT TCTGCTGTTC CAGTATCGTT TTTCCTCGCT AGATTTCCTC AAAAGGGCAG     10020

ACTCCTCCCT TGGTGCGTCA CACGATTTTT TCATCTCGAC TGTTCTTTAA TGCATCATTA     10080

ACGACGCTTT TCTTCTAGGT GGTTCATAAG GAACAGGAAG ATTCAGGTTG ACTTTTCTAA     10140

TCCTAGAATA AAGTGCTGAA AACAATTCGG AATAGGCATA GAGACTAGAC AATTTGAGGA     10200

GCTGCTTGCG TCCTGTTCGA ACACATTTTC CCACCACGTG AAGAAAAAGA TGGCGGAAGC     10260

GTTTGATTGT TAAAGTTTGG AAGTCACCTC CAGCTAGATG TTTGAGAAAA AGATAGAGAT     10320

TGTAGGCGAT ACAGCTCATC ATCATACGAA TTCGTTTTTG ATTAAGGTTG AACTATCCGT     10380

TTTATCGCCA AAAAATCGG                                                 10399
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(2) INFORMATION FOR SEQ ID NO: 161:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 9409 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 161:

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GATAAGATTA AGTTAGAAAA GAAAGAACTA GGACATATCT ACCAGATTCA GGTTTTTAAT       60

AGCTATGGGC AGGAAGAAAT CTATCGTGTG ATTTTGATGG AGACCAATAT TAGTTCGGTT      120

TCAACCAATA TCAAGTATGC TGCTGTCTTG ATTAATACCA GTCAGTTGGA ACAGGCTAGT      180

CAAAAGCATG AGCAATTGAT TGTGGTCGTG ATGGCTAGTT TCTGGATTTT GTCTTTACTT      240

GCCAGTCTCT ATCTAGCTAG GGTCAGTGTT AGGCCCCTGC TTGAGAGTAT GCAGAAGCAA      300

CAGTCTTTTG TGGAAAATGC CAGTCATGAG TTACGAACTC CACTCGCAGT TTTGCAAAAT      360

CGCTTAGAGA CCCTTTTTCG TAAGCCAGAA GCTACCATTA TGGATGTGAG CGAAAGCATT      420

GCATCGAGTT TGGAAGAAGT CCGAAATATG CGTTTTTTAA CGACAAGCTT GCTGAACTTA      480

GCTCGGAGAG ATGATGGGAT TAAGCCGGAG CTTGCAGAAG TTCCAACTAG CTTTTTTAAT      540

ACAACTTTCA CAAACTACGA GATGATTGCT TCGGAAAATA ATCGTGTCTT CCGTTTTGAA      600

AATCGTATCC ATCGAACAAT TGTCACAGAT CAGCTTCTTC TGAAACAACT GATGACCATT      660

CTTTTCGATA ATGCCGTCAA GTATACTGAG GAGGATGGTG AAATTGATTT TCTTATCTCG      720
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1044

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GCGACCGATC GCAATCTTTA TTTACTTGTT TCTGATAATG GAATCGGTAT TTCGACAGAA      780

GATAAAAAGA AAATTTTTGA CCGTTTTTAT CGAGTAGACA AGGCTAGAAC CCGGCAAAAA      840

GGTGGTTTTG GTTTAGGATT ATCCCTAGCC AAGCAAATTG TAGATGCTCT AAAAGGAACT      900

GTTACTGTCA AAGATAATAA ACCCAAGGGA ACAATCTTTG AAGTGAAGAT TGCCATTCAG      960

ACACCATCTA AAAAGAAAAA ATAAAAATAT CGCTCCAATT GGGGCGATAT TTTGGATTTA     1020

TCTTCTACGT TTTCGTTTGA TAATAGACCG TTGAACTTTT AAAACAAGTA AGCTGAATCC     1080

GATTGCTGCG GCAAAGGCAA GAGCAGTTGA TAATTTTAAT GCTAAAAAGA TAAAACTAAA     1140

GATAGCAATA CAGATACAAA AAACAGCGAT ATTAATAAAA AATAGGATTT CCTTGAGATT     1200

GGCATCAGAT TGCGCTTCAG GTGTATAAGC TTGGTAATGA GGAAGCTGCT GGTTTAATTC     1260

TTCTTGATAG TCTACCTCAT AGGATTGTAA TTTTCTTACG GGCATGATTC TCTCCTTAAC     1320

AGTACATACC TATTTTATCA TTTTTTCGGC AGAGAATTAT TACAGAAAGG TTACAAAAAG     1380

AATAAAGTCC CTTTTCATTT TCAAAGCATG GCTGATTTTG GAGAAATGTG GTATAATTTT     1440

TCTTATGGAA AAGATTGTCA TTACAGCAAC TGCTGAAAGT ATTGAACAAG TTGAACAACT     1500

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AAACTACTAT AACTTTACAC ATATCGATGA TGAAAAGACG CATAAACGTG ACCTCTTCTT     2040

GGCTGAGCCA AGTGATCCAG AGAGCCACTA TTCCATTTTT GAAGATAATC ATGGGACCCA     2100

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GATGCAAACA TTTCTTCTCT CAATTTTTCG TATTTCTTCA CTATTTTACA AAAATCAGCA     2460

GGCTAGAATG CTCTATTCGA TGGGATTTTT AAGAAAAGTA GTGTTCTTGA GTTTGAAAAT     2520
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1045

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CGATTGGTAA TCGCTATGTT GTGGTGGATT TAGAGGCAAC TAGCACAGGT AGTAAGGCTA    2640

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CGGATGTCAA TCCACATGAA CCCTTGGATG CTCATATCAA AGAACTGACA GGATTGACAG    2760

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TTTTTTTACG GAAAAAGATG ACCCAGCTTC CTAAAGGTCT CTTGGAACGC TTGCTGGAAA    3120

TGGCTGACGC TCTCCTATAT GAGTCCTACC TGGTTATTGA GGAAACTTAT CGCAACCAAT    3180

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CCGCTTTATC TCAATCCAAA GAGCGACAAA TTGTTCTTAG TGTTCCGACA AAGATTCTTC    3480

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GGAAACGTAG TCAAGAAAGG GCAGAGACTT GCAAGCTTTT AGTGACTAAT CATGCCTATC    3840

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TACTAGAAAG TATTCGCTTT GAGTGTCTCT ACTTGATAGA ACAATTTCAG TCTGGCAAAT    4080

CTAGGAAAAA TATCTTAGAT TCTCTGGACA ATCTCCATCA GTATTTTTCA GAATTGGAAG    4140

TAGAAGACTT TGATGAGCTG GTTCGCTATT TTACAGCTGA AGGTGATTAC TGGCTTGAAG    4200

TAACTGAAAC GAGTCAAAAG AAAATTCAGA TTTCTTCTAC AAAATCAGGC CGTACTCTTC    4260
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1046

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TGTCCTCTTT ACTTCCTGAG AGTTGCCAAG TCTTGGGAGT ATCGGCTACT CTTGAGATTA    4320

GTCAGAGGGT TTCTTTGGCA GACCTTTTAG GCTATCCTGA AGCTAAATTT GTCAAGATTG    4380

AATCTCGGGG AAAACAGGAA CAAGAAGTGG TCATGGTCAA AGATTTCCCT CTGGTAACAG    4440

AAACCTCCTT AGAAGTCTAT GCCAGAGAGG TAGCTGCTTT ACTAGTGGAA ATTCAAGCTT    4500

TCCAGCAACC GATTTTGGTT CTCTTTACCG CTAAAGACAT GCTTCTAGCA GTATCGGATT    4560

TACTTACAGT TAGCCACTTG GCCCAGTATA AAAATGGGGA TGTTCATCAG CTAAAGAAAC    4620

GCTTTGAAAA AGGTGAACAA CAAATCTTGC TTGGTGCAGC AAGTTTCTGG GAGGGAGTTG    4680

ATTTTTCAAG CCATCCTTCT GTGATTCAAG TTGTACCGAG GCTTCCTTTC CAAAATCCTC    4740

AAGAACCCTT GACGAAAAAG ATTAATCAAG AACTGAATCA AGAAGGGAAA AATGCCTTTT    4800

ATGATTATCA ATTGCCAATG GCCATTATTC GTTTAAAACA GGCTTTGGGA AGAAGTATGA    4860

GACGTGAATA CCAACGTTCC TTAACTCTTA TTTTGGATAG GAGAATCGTC GGAAAAACGAT    4920

ACGGCAAACA AATAGTAGCA TCTCTAGCAG AAGAAGCGAC TGTTAAAACC ATCTCTCGAT    4980

CCGAAGTTGA CGAGGCTATT GATAGATTTT TTAATGAGCT TTGATAAATA GTATTGTATG    5040

AAAGTATAAG GTTAGTATAT ATGAAACGTT CTCTCGACTC AAGAGTCGAT TACAGTTTGC    5100

TCTTGCCAGT ATTTTTTCTA CTGGTCATCG GTGTGGTGGC TATCTATATA GCCGTTAGTC    5160

ATGATTATCC CAATAATATT CTGCCCATTT TAGGGCAGCA GGTCGCCTGG ATTGCCTTGG    5220

GGCTTGTGAT TGGTTTTGTG GTCATGCTCT TTAATACAGA ATTTCTTTGG AAGGTGACCC    5280

CCTTTCTATA TATTTTAGGC TTGGGACTTA TGATCTTGCC GATTGTATTT TATAATCCAA    5340

GCTTAGTTGC ATCAACGGGT GCCAAAAACT GGGTATCAAT AAATGGAATT ACCCTATTCC    5400

AACCGTCAGA ATTTATGAAG ATATCCTATA TCCTCATGTT GGCTCGTGTC ATTGTCCAAT    5460

TTACAAAGAA ACATAAGGAA TGGAGACGCA CGGTTCCGCT GGACTTTTTG TTAATTTTCT    5520

GGATGATTCT CTTTACCATT CCAGTCCTAG TTCTTTTAGC ACTTCAAAGT GACTTGGGGA    5580

CGGCTTTGGT TTTTGTAGCC ATTTTCTCAG GAATCGTTTT ATTATCAGGG GTTTCTTGGA    5640

AAATTATTAT CCCAGTATTT GTGACTGCTG TAACAGGAGT TGCTGGTTTC TTAGCTATCT    5700

TTATTAGCAA GGACGGACGA GCTTTTCTTC ACCAGATTGG AATGCCGACC TACCAAATTA    5760

ATCGGATTTT GGCTTGGCTC AATCCCTTTG AGTTTGCCCA AACAACGACT TACCAGCAGG    5820

CTCAAGGGCA GATTGCCATT GGGAGTGGTG GCTTATTTGG TCAGGGATTT AATGCTTCGA    5880

ATCTGCTTAT CCCAGTTCGA GAGTCAGATA TGATTTTTAC GGTTATTGCA GAAGATTTTG    5940

GCTTTATTGG CTCTGTCCTG GTTATTGCCC TCTATCTCAT GTTGATTTAC CGTATGTTGA    6000

AGATTACTCT TAAATCAAAT AACCAGTTCT ACACTTATAT TTCCACAGGT TTGATTATGA    6060
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1047

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TGTTGCTCTT CCACATCTTT GAGAATATCG GTGCTGTGAC TGGACTACTT CCTTTGACGG     6120

GGATTCCCTT GCCTTTCATT TCGCAAGGGG GATCAGCTAT TATCAGTAAT CTGATTGGTG     6180

TTGGTTTGCT TTTATCGATG AGTTACCAGA CTAATCTAGC TGAAGAAAAG AGCGGAAAAG     6240

TCCCATTCAA ACGGAAAAAG GTTGTATTAA AACAAATTAA ATAAGGAGAA AATCATGGTA     6300

AAAGTAGCAG TTATATTAGC TCAGGGCTTT GAAGAAATTG AAGCCTTGAC AGTTGTAGAT     6360

GTCTTGCGTC GAGCCAATAT CACATGTGAT ATGGTTGGTT TTGAAGAGCA AGTAACGGGT     6420

TCGCATGCAA TCCAAGTAAG AGCAGATCAT GTCTTTGATG GAGATTTATC AGACTATGAT     6480

ATGATTGTTC TTCCTGGAGG TATGCCTGGT TCTGCACATT TACGTGATAA TCAGACCTTG     6540

ATTCAAGAAT TGCAAAGCTT CGAGCAAGAA GGGAAGAAAC TAGCAGCCAT TTGTGCGGCA     6600

CCAATTGCCC TCAATCAAGC AGAGATATTG AAAAATAAGC GATACACTTG TTATGACGGC     6660

GTTCAAGAGC AAATCCTTGA TGGTCACTAC GTCAAGGAAA CAGTAGTGGT AGATGGTCAG     6720

TTGACAACCA GTCGGGGTCC TTCAACAGCC CTTGCCTTTG CCTACGAGTT GGTGGAGCAA     6780

CTAGGAGGGG ACGCAGAGAG TTTACGAACA GGAATGCTCT ATCGAGATGT CTTTGGTAAA     6840

AATCAGTAAA ACGGGAGTTA TTCTCTCGTT TTTTATGTGG AAAACTCAGG GAAATCATCG     6900

CTTTTTTCAT AAAAAAATGC TATAATGAAG GGTATGAAAT ATCACGATTA CATCTGGGAT     6960

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GCACTGTATG GTATCACACA AGACCATGAC AGTGTCTATC AAGCTTTAAA GGTTTCTACT     7080

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GACATTTCAA ATCAAGGTGG CCGTCATTTT TTGGTCTCTC ATCGAAATGA TCAGGTTTTG     7260

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GGCTTTAAGA GAAAGCCAAA TCCCGAATCC ATGCTTTATT TAAGAGAAAA GTATCAGATT     7380

AGCTCTGGTC TTGTCATTGG TGATCGGCCG ATTGATATCG AAGCAGGTCA AGCTGCAGGA     7440

CTTGATACCC ACTTGTTTAC CAGTATCGTG AATTTAAGAC AAGTATTAGA CATATAAGAA     7500

AAAGGAATAA GATGACAGAA GAAATCAAAA ATCTGCAGGC ACAGGATTAT GATGCCAGTC     7560

AAATTCAAGT TTTAGAGGGC TTAGAGGCTG TTCGTATGCG TCCAGGGATG TACATTGGAT     7620

CAACCTCAAA AGAAGGTCTT CACCATCTAG TCTGGGAAAT TGTTGATAAC TCAATTGACG     7680

AGGCCTTGGC AGGATTTGCC AGCCATATTC AAGTTTTTAT TGAGCCAGAT GATTCGATTA     7740

CTGTTGTGGA TGATGGGCGT GGTATCCCAG TCGATATTCA GGAAAAAACA GGCCGTCCTG     7800
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1048

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CTGTTGAGAC CGTCTTTACA GTCCTTCACG CTGGAGGAAA GTTCGGCGGT GGTGGATACA     7860

AGGTTTCAGG TGGTCTTCAC GGGGTGGGGT CGTCAGTAGT TAATGCCCTT TCCACTCAAT     7920

TAGACGTTCA TGTTCACAAA AATGGTAAGA TTCATTACCA AGAATACCGT CGTGGTCATG     7980

TTGTCGCAGA TCTTGAAATA GTTGGAGATA CGGATAAAAC AGGAACAACT GTTCACTTCA     8040

CACCGGACCC AAAAATCTTC ACTGAAACAA CAATCTTTGA TTTTGATAAA TTAAATAAAC     8100

GGATTCAAGA GTTGGCCTTT CTAAATCGCG GTCTTCAAAT TTCAATTACA GATAAGCGCC     8160

AAGGTTTGGA ACAAACCAAG CATTATCATT ATGAAGGTGG GATTGCTAGT TACGTTGAAT     8220

ATATCAACGA GAACAAGGAT GTAATCTTTG ATACACCAAT CTATACAGAC GGTGAGATGG     8280

ATGATATCAC AGTTGAGGTA GCCATGCAGT ACACAACTGG TTACCATGAA AATGTCATGA     8340

GTTTCGCCAA TAATATTCAT ACCCATGAAG GTGGAACACA TGAACAAGGT TTCCGTACAG     8400

CCTTGACACG TGTTATCAAC GATTATGCTC GTAAAAATAA GTTACTGAAA GACAATGAAG     8460

ATAATTTAAC AGGGGAAGAT GTTCGCGAAG GCTTAACTGC AGTTATCTCA GTTAAACACC     8520

CAAATCCACA GTTTGAAGGA CAAACCAAGA CCAAATTGGG AAATAGCGAA GTGGTCAAGA     8580

TTACCAATCG CCTCTTCAGT GAAGCTTTCT CCGATTTCCT CATGGAAAAT CCACAGATTG     8640

CCAAACGTAT CGTAGAAAAA GGAATTTTGG CTGCCAAGGC TCGTGTGGCT GCCAAGCGTG     8700

CGCGTGAAGT CACACGTAAA AAATCTGGTT TGGAAATTTC CAACCTTCCA GGGAAACTAG     8760

CAGACTGTTC TTCTAATAAC CCTGCTGAAA CAGAACTCTT CATCGTCGAA GGAGACTCAG     8820

CTGGTGGATC AGCCAAATCT GGTCGTAACC GTGAGTTTCA GGCTATCCTT CCAATTCGCG     8880

GTAAGATTTT GAACGTTGAA AAAGCAAGTA TGGATAAGAT TCTAGCCAAC GAAGAAATTC     8940

GTAGTCTTTT CACAGCCATG GGAACAGGAT TTGGCGCAGA ATTTGATGTT TCGAAAGCCC     9000

GTTACCAAAA ACTCGTTTTG ATGACCGATG CCGATGTCGA TGGAGCCCAC ATTCGTACCC     9060

TTCTTTTAAC CTTGATTTAT CGTTATATGA AACCAATCCT AGAAGCTGGT TATGTTTATA     9120

TTGCCCAACC ACCAATCTAT GGTGTCAAGG TTGGAAGCGA GATTAAAGAA TATATCCAGC     9180

CGGGTGCAGA TCAAGAAATC AAACTCCAAG AAGCTTTAGC CCGTTATAGT GAAGGTCGTA     9240

CCAAACCGAC TATTCAGCGT TATAAGGGGC TAGGTGAAAT GGACGATCAT CAGCTGTGGG     9300

AAACAACCAT GGATCCCGAA CATCGCTTGA TGGCTAGAGT TTCTGTAGAT GATGTGCAGA     9360

AGCAGATAAA ATCTTTGATA TGTTGATGGG GATCGAGTTG TCCTCGTCG               9409
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(2) INFORMATION FOR SEQ ID NO: 162:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 6415 base pairs
       (B) TYPE: nucleic acid

(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 162:

CCTGGGAAAG TCTTGAAAAT TATGATAGAA TGGTGGAAGG AAAAATTCAG GAGAGTAGTA   60

GTGACTCAAA ATGTTGAAAG TCTTCTCGTA TCCATTGTAA TCAGTGCATA CAATGAAGAA   120

AAATATCTGC CTGGTCTAAT TGAAGACTTA AAAAATCAAA CCTATCCTAA AGAGGATATT   180

GAAATTCTAT TTATAAATGC TATGTCCACA GATGGGACCA CAGCTATCAT TCAGCAATTT   240

ATAAAGGAAG ATACAGAGTT TAACTCAATT AGATTGTATA ACAATCCTAA GAAAAATCAA   300

GCTAGTGGTT TTAACCTGGG AGTTAAACAT TCTGTAGGGG ACCTTATTTT AAAAATTGAT   360

GCTCATTCAA AAGTTACTGA GACTTTTGTA ATGAACAATG TGGCTATTAT TCAACAAGGT   420

GAATTTGTCT GTGGGGGGCC TAGACCGACG ATTGTCGAAG GAAAAGGAAA ATGGGCAGAG   480

ACCTTGCATC TTGTTGAGGA AAATATGTTT GGCAGTAGCA TTGCCAATTA TCGAAATAGT   540

TCTGAGGATA GATATGTTTC TTCTATTTTT CATGGAATGT ATAAACGAGA GGTTTTCCAG   600

AAGGTTGGTT TAGTAAATGA GCAACTTGGC CGAACTGAAG ATAATGATAT TCATTATAGA   660

ATTCGAGAAT ATGGTTATAA AATCCGCTAT AGCCCAAGTA TTCTATCTTA TCAGTATATT   720

CGACCAACAT TCAAGAAAAT GCTGCATCAA AAGTATTCAA ATGGTTTGTG GATTGGCTTG   780

ACAAGTCATG TTCAGTTTAA GTGTTTATCA TTATTTCACT ATGTTCCTTG TTTATTTGTT   840

TTGAGTCTTG TGTTTAGTCT AGCATTGTTA CCGATCACAT TCGTATTCAT AACTTTACTA   900

TTAGGTGCCT ATTTTCTACT TTTGTCATTA CTCACTTTGC TGACTTTATT AAAACATAAA   960

AATGGATTTC TAATTGTGAT GCCCTTTATT TTATTTTCCA TTCACTTTGC TTATGGCCTT   1020

GGGACGATTG TAGGTTTAAT TAGAGGATTT AAATGGAAGA AGGAGTACAA GAGAACAATA   1080

ATTTATTTGG ATAAAATAAG CCAAATAAAT CAAAATATGC TATAATAACA ATATAGTAAA   1140

ACTCTTTTAA GGAGGAGTAG ATTTCTATGA ATAAAAAACT AACAGATTAT GTGATTGATC   1200

TGGTGGAAAT TTTAAATAAA CAACAAAAGC AGGTTTTCTG GGGAATATTT GATATTTTCA   1260

GTATGGTGGT TTCCATCATT GTATCTTATA TTTTATTTTA TGGGCTGATT AATCCAGCAC   1320

CTGTTGACTA CATTATCTAT ACGAGTTTGG CCTTCCTGTT CTATCAATTG ATGATTGGTT   1380

TTTGGGGGTT GAACGCGAGC ATTAGTCGTT ACAGCAAGAT TACGGATTTC ATGAAAATCT   1440

TTTTTGGTGT GACTGCTAGC AGTGTCTTGT CATATAGTAT CTGTTATGCC TTCTTGCCAC   1500

TCTTCTCCAT CCGTTTCATC ATTCTCTTTA TCTTGTTGAG TACCTTCTTG ATTTTATTGC   1560

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                                        1050
CACGGATTAC TTGGCAGTTA ATCTACTCCA GACGCAAAAA AGGTAGTGGT GATGGAGAAC     1620

ACCGTCGGAC CTTCTTGATT GGTGCCGGTG ATGGTGGGGC TCTTTTTATG GATAGTTACC     1680

AACATCCAAC CAGTGAATTA GAACTGGTCG GTATTTTGGA TAAGGATTCT AAGAAAAAGG     1740

GTCAAAAACT TGGTGGTATT CCTGTTTTGG GCTCTTATGA CAATCTGCCT GAATTAGCCA     1800

AACGCCATCA AATCGAGCGT GTCATCGTTG CGATTCCGTC GCTGGATCCG TCAGAATATG     1860

AGCGTATCTT GCAGATGTGT AATAAGCTGG GTGTCAAATG TTACAAGATG CCTAAGGTTG     1920

AAACTGTTGT TCAGGGCCTT CACCAAGCAG GTACTGGCTT CCAAAAAATT GATATTACGG     1980

ACCTTTTGGG TCGTCAGGAA ATCCGTCTTG ACGAATCGCG TCTGGGTGCA GAACTGACAG     2040

GTAAGACCAT CTTAGTCACA GGAGCTGGAG GTTCAATCGG TTCTGAAATC TGTCGTCAAG     2100

TTAGTCGCTT CAATCCTGAA CGCATTGTCT TGCTCGGTCA TGGGGAAAAC TCAATCTACC     2160

TTGTTTATCA TGAATTGATT CGTAAGTTCC AAGGGATTGA TTATGTACCT GTGATTGCGG     2220

ACATTCAAGA CTATGATCGT TTGTTGCAAG TCTTTGAGCA GTACAAACCT GCTATTGTTT     2280

ATCATGCGGC AGCCCACAAG CATGTTCCTA TGATGGAGCG CAATCCAAAA GAAGCCTTCA     2340

AAAACAATAT CCGTGGAACT TACAATGTTG CTAAGGCTGT TGATGAAGCT AAAGTGTCTA     2400

AGATGGTTAT GATTTCGACA GATAAGGCAG TCAATCCACC AAATGTTATG GGAGCAACCA     2460

AGCGCGTGGC GGAGTTGATT GTCACTGGCT TTAACCAACG TAGCCAATCA ACCTACTGTG     2520

CAGTTCGTTT TGGGAATGTT CTTGGTAGCC GTGGTAGTGT CATTCCAGTC TTTGAACGTC     2580

AGATTGCTGA AGGTGGGCCT GTAACGGTGA CAGACTTCCG TATGACCCGT TACTTTATGA     2640

CCATTCCAGA AGCTAGCCGT CTGGTTATCC ATGCTGGTGC TTATGCCAAA GATGGGGAAG     2700

TCTTTATCCT TGATATGGGC AAACCAGTCA AGATTTATGA CTTGGCCAAG AAGATGGTGC     2760

TTCTAAGTGG CCACACTGAA AGTGAAATTC CAATCGTTGA AGTTGGAATC CGCCCAGGTG     2820

AAAAACTCTA CGAAGAACTC TTGGTATCAA CCGAACTCGT TGATAATCAA GTTATGGATA     2880

AGATTTTCGT TGGTAAGGTT AATGTCATGC CTTTAGAATC CATCAATCAA AAGATTGGAG     2940

AGTTCCGCAC TCTCAGTGGA GATGAGTTGA AGCAAGCTAT TATCGCCTTT GCTAATCAAA     3000

CAACCCACAT TGAATAAAAA AGAAAAACGC ATAGTATCAA GTTACACAAC CTTGGTAATA     3060

TGCGTTTTAT TATGTAGAGA CTTATACTCT TCGAAAATCT CTTCAAACCA CGTCAACGTC     3120

GCCTTGCCGT ATATGGTTAC TGACTtCGTC AGTTCTATCC ACAACCTCAA AACAGTGTTT     3180

TGAGytGACT TCGTCAGTTC TATCCACAAC CTCAAAACAG TGTTTTGAGc TGACttCGTC     3240

AGTTCTATCC ACAACCTCAA AACAGTGTTT TGAGCTGAcT TCGTCAGTTC CATCCACAAC     3300

CTTAAAACAG TGTTTTGAGy TGACnTTCGT CAGTTCCATC TACAACCTTA AAACAGTGTT     3360
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1051

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TTGAGCTGCC CGCAGCTAGT TTCCTAGTTT GCTCTTTGAT TTTCATTGAG TATTACTTCA      3420

TTTTCTTCTG AAATGGAATT GTTACCCAGT CTATGCTATT GAAAATACGC CAAAACTTCT      3480

AAGGGTTTGT GAGCGATATA ATCAGGTTGA TAGTTTAGTA GATCTGCTTG CTCTCCAAAT      3540

CCCCAAGTGA TGGCCAATTT CTGAATACCT GTTTCTCGAG CTCCCAGCAT ATCAAACTTG      3600

GTATCTCCGA TGATGATGGC TTGTTCTGGT GCTAGTTGAT GTGTCTGCAA GGCTTGGTGA      3660

ATGACATCTG CCTTATGGGG TGCTTCAGGG CTAGAACCAT AAATGCCATC AAAGAAATGA      3720

TGGATTTCCA AGTTTTTTGC CATGTCTTGA GCAGTAGATG TATCCTTTGT CGTGGTGATG      3780

TAGAGTGGAT AACTGCTCGA TAACTCCTCA AGCAAGTCTA TAATCTGAGG AAAGAGTTGA      3840

GCTTCATAGA TGCCTTTTGC CTTATAGTAA GAACGATATA TCTGCACGGC TTCAGAAATT      3900

TGGTCTTTGG ACAGGCAGGT CGCAAAACTA CTTTCGAGAG GTGGTCCCAT AAAACCACGA      3960

ATAGTTTTGG CATCAGGGCT AGGCACCCCC AGCTCTTTAA AGGTATAGGT AAAGGCATTG      4020

TGAATCCCGA TAGAACTATC AACGAGGGTT CCATCCAAAT CGAAAAAAAT CGCTGTGATA      4080

GAGGTCATGG TTTCTCCTAT TTGATAAGCT TATTCTCCGA AAATTTCTTT TTGGAGGCGA      4140

CGACCAGTAG GGGTGGTAGC GAGTCCACCT TCAGCTGTTT CACGAAAGGC AGTTGGCATG      4200

CTTGCTCCTA CTTGGTACAT GGCATCGATC ACTTCATCCA CAGGGATTTT AGATTCGATA      4260

CCTGCCAAGG CCATGTCTGC TGCGATGAAA GCAAAGCTAG CTCCCATGGC ATTACGTTTG      4320

ACACAGGGAA CTTCGACCAA ACCTGCAACA GGGTCACAGA TGAGGCCTAG CATATTTTTA      4380

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AATTGTTGCT CGTGGCTGAG GTCTAATTTT TCAATAGCAG CAGTGAGAAC GGATGGCAGA      4620

CAGCCAGCAC TTCCAGCGGT TGGAGTGGCA CAGACCAAGC CCATTTTGGC ATTGTGTTCA      4680

TTGACTGCGA TGGCATTTCG GGCAGCCGAG AGAATCGTAT AATCTGACAG AGTTTTTCCG      4740

TTTTCGATGT AGTGATCCAA TTTGGCAGCA TCTCCACCTG TCAGGCCACT ACGAGATTTA      4800

TTTTCATTGA GGCCAAGTTG GACAGAGGCT TTCATAACTT CCAGATTGCG TTCCATGAGA      4860

AGGAAGACTT CTTCACGTTC GCGACCGGTC AATTCAAACT CTGTTGTAAT CATGAGTTCT      4920

GCGACATTTC CTTGAAAGTC CAGATCTGCT TGCTCGACCA ATTCTTTGAT AGAATAAAAC      4980

ATGCTTCCTC CTATTTAAAG AAATTGACAT TGTGGAGATG AGGGATTTTT CGAATTTCTT      5040

CGATAGCCTC ATCACAGTTG CGACTGTCAA CTTCGATAAT CATAATGGCT TTTTCACCAG      5100
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1052

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CTTTTTCACG AGTGACATTC ATCTGGGCGA TATTGATACC ATAGCGGGAA AGCGCCTCTG    5160

TAACAAGGGC AATCATACCT GGAATATCTT GATGAACGAT GATGATAGTC GGTGTATTCA    5220

TATTGAGAGA GACGGCAAAA CCATTGAGTT CGGTTACCTG AATATTTCCT CCACCGATAG    5280

AAATACCAGT CACGCTGATG GTCTTGTGGG CATTTTTAAC AGTAATTTTA GTGGTGTTAG    5340

GGTGAGGGGC ATTGCTGTCT TTCTGAATGG TCCAGACAAT CTTGATACCA CGCTTGTGGG    5400

CAATTTCCAG ACTATTTGGA ATTTCAGGAT CATCTGTATC CATTCCTAAA ATACCTGCAA    5460

CAAGGGCTAG GTCTGTTCCG TGACCACGAT AGGTCTTGGC AAATGAGTTA AAAAGTTGGA    5520

ATTCAACTTC TGTCGGAGTA TCATCAAAAA TGGAAGAGAC AATCTTCCCA ATACGAACAG    5580

CACCAGCGGT ATGGCTACTA GATGGGCCAA TCATAACTGG TCCGATGATA TCAAAGACAG    5640

ATTGAAAACG AAGTGATTTC ATCAGTTTCC CCTTATAAAA ATTCTTATCT CTATTATATC    5700

AAAGAATGAG GGGCTTGGCT TTAATTGTGG ATGAAAACCT TTCTAATACC TCAAATAGCA    5760

TAAAAATAGT ATCTTTTATG ACAAAAAACA CCTTATTTAG GGAAATAAAA AATAATTTTG    5820

TAATATTTCT ACATAAAAGT GTCAAGAAAC GGTAATATTT AAAGGGTATG ATAGAACTAT    5880

AGAAAGAAGG AGAATTTTCG AATATGAAAT CAATAACTAA AAAGATTAAA GCAACTCTTG    5940

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CAACTTACAC TGTTAAAGAA GGTGATACAC TTTCAGAAAT CGCTGAAACT CACAACACAA    6060

CAGTTGAAAA ATTGGCAGAA AACAACCACA TTGATAACAT TCATTTGATT TATGTTGATC    6120

AAGAGTTGGT TATCGATGGC CCTGTAGCGC CTGTTGCAAC ACCAGCGCCA GCTACTTATG    6180

CGGCACCAGC CGCTCAAGAT GAAACTGTTT CAGCTCCAGT AGCAGAAACT CCAGTAGTAA    6240

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AAAAAGAATC AGGTGGTAGT ATACAGCTAC AAATGGACGT TATATCGGAC GTTACCAATT    6360

AACAGATTCA TACCTGAACG GTGACTACTC AGCTGAAAAC CAAGAACGGG TACCG         6415
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(2) INFORMATION FOR SEQ ID NO: 163:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 8494 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 163:

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TACCCCTTTC GAATTTTGGC AAAAATTCGG TAAGGCTTTG ATGGTAGTTA TCGCGGTTAT     60

GCCGGCTGCT GGTTTGATGA TTTCAATCGG TAAGTCTATC GTGATGATTA ACCCAACCTT    120
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1053

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TGCACCACTT GTCATCACAG GTGGAATTCT TGAGCAAATC GGTTGGGGGG TTATCGGTAA        180

CCTTCACATT TTGTTTGCCC TAGCCATTGG AGGAAGCTGG GCTAAAGAAC GTGCTGGTGG        240

TGCTTTCGCC GCTGGTCTTG CCTTCATCTT GATTAACCGT ATCACTGGTA CAATCTTTGG        300

TGTATCAGGC GATATGTTGA AAAATCCAGA TGCTATGGTA ACTACTTTCT TTGGTGGTTC        360

AATCAAAGTT GCTGATTACT TTATCAGTGT TCTTGAAGCT CCAGCCTTGA ACATGGGGGT        420

ATTCGTAGGG ATTATCTCAG GTTTTGTAGG GGCAACTGCT TACAACAAAT ACTACAACTT        480

CCGTAAACTT CCTGATGCAC TTTCATTCTT CAACGGGAAA CGTTTCGTAC CATTTGTAGT        540

TATTCTTCGT TCAGCAATCG CTGCAATTCT ACTTGCTGCT TTCTGGCCAG TAGTTCAAAC        600

AGGTATCAAT AACTTCGGTA TCTGGATTGC CAACTCACAA GAAACTGCTC CAATTCTTGC        660

ACCATTCTTG TATGGTACTT TGGAACGTTT GCTCTTGCCA TTTGGTCTTC ACCACATGTT        720

GACTATCCCA ATGAACTACA CAGCTCTTGG TGGTACTTAT GACATTTTAA CTGGTGCAGC        780

TAAAGGTACT CAAGTATTCG GTCAAGACCC ACTATGGCTT GCATGGGTAA CAGACCTTGT        840

AAACCTTAAA GGTACTGATG CTAGTCAATA TCAACACTTG TTAGATACAG TACATCCAGC        900

TCGTTTCAAA GTTGGACAAA TGATCGGTTC ATTCGGTATC TTGATGGGTG TGATTGTTGC        960

TATCTACCGT AATGTTGATG CTGACAAGAA ACATAAATAC AAAGGTATGA TGATTGCAAC       1020

AGCTCTTGCA ACATTCTTGA CAGGGGTTAC TGAACCAATC GAATACATGT TCATGTTCAT       1080

CGCAACACCT ATGTATCTTG TTTACTCACT TGTTCAAGGT GCTGCCTTCG CTATGGCTGA       1140

CGTCGTAAAC CTACGTATGC ACTCATTCGG TTCAATCGAG TTCTTGACTC GTACACCTAT       1200

TGCAATCAGT GCTGGTATTG GTATGGATAT CGTTAACTTC GTTTGGGTAA CTGTTCTCTT       1260

TGCTGTAATC ATGTACTTTA TCGCAAACTT CATGATTCAA AAATTCAACT ACGCAACTCC       1320

AGGGCGCAAC GGAAACTACG AAACTGCTGA AGGTTCAGAA GAAACCAGCA GCGAAGTGAA       1380

AGTTGCAGCA GGCTCTCAAG CTGTAAACAT TATCAACCTT CTTGGTGGAC GTGTAAACAT       1440

CGTTGATGTT GATGCATGTA TGACTCGTCT TCGTGTAACT GTTAAAGATG CAGATAAAGT       1500

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GGTTCAAGCT ATCTACGGTC CAAAAGCTGA CATTTTGAAA TCTGATATCC AAGATATCCT       1620

TGATTCAGGT GAAATCATTC CTGAAACTCT TCCAAGCCAA ATGACTGAAG CACAACAAAA       1680

CACTGTTCAc TTCAAAGATC TTACTGAGGA AGTTTACTCA GTAGCAGACG GTCAAGTTGT       1740

TGCTTTGGAA CAAGTAAAGG ATCCAGTATT TGCTCAAAAA ATGATGGGTG ATGGATTTGC       1800

AGTAGAACCT GCAAATGGAA ACATTGTATC TCCAGTTTCA GGTACTGTGT CAAGCATCTT       1860
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1054

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CCCAACAAAA CATGCTTTTG GTATTGTGAC GGAAGCAGGT CTTGAAGTAT TGGTTCACAT    1920

TGGTTTGGAC ACAGTAAGTC TTGAAGGTAA ACCATTTACA GTTCATGTTG CTGAAGGACA    1980

AAAAGTTGCA GCAGGAGATC TCCTTGTCAC AGCTGACTTG GATGCTATCC GTGCAGCAGG    2040

ACGTGAAACT TCAACAGTAG TTGTCTTCAC AAATGGTGAT GCAATTAAAT CAGTTAAGTT    2100

AGAAAAAACA GGTTCTCTTG CAGCTAAAAC AGCAGTTGCT AAAGTAGAAT TGTAATATAC    2160

TTGAGGTTGG AAGCTGTATT CCAACCTCTT ATTTTGGGAG AAAAGAATGA AATTTTTAAC    2220

ACTCAATACT CACAGTTGGA TGGAGAAAGA AGCAGAGGAA AAATTCCAGA TTTTGCTTGA    2280

AGATATTCTT GAAAAGGACT ATGATTTGAT TTGTTTTCAA GAAATCAATC AGGAGATGAC    2340

CTCGTCAGAG GTGGAGGTTA ATGACCTTTA TCAAGCTTTG CCAGCAGCTG AGCCTATTCA    2400

CCAAGACCAT TATGTTAGAC TCTTGGTTGA AAAGTTGTCT GAGCAAGGGA AAAATTACTA    2460

CTGGACCTGG GCCTATAACC ATATCGGCTA TAACCGCTAC CACGAAGGTG TGGCTATCTT    2520

GTCTAAAACA CCTATTGAAG CCAGAGAAAT TTTGGTTTCA GATGTGGATG ATCCAACAGA    2580

CTATCATACT CGCCGTGTTG CCCTAGCTGA AACTGTAGTC GATGGCAAGG AGCTAGCAGT    2640

TGCCAGTGTT CATCTCTCTT GGTGGGATAA AGGTTCCAA GAAGAATGGG CACGATTTGA     2700

GGCTGTCTTG AAAAAATTGA ACAAGCCACT TTTACTAGCT GGAGATTTCA ACAATCCGGC    2760

TGGACAGGAA GGTTACCAAG CTATTTTAGC TAGTCCATTA GGCTTACAAG ACGCATTTGA    2820

AGTTGCTCAA GAGAAAGTG GTAGCTATAC TGTTCCGCCT GAAATTGATG GCTGGAAAGG     2880

GAACACTGAA CCCCTTCGAA TCGATTATGT CTTTACTACC AAAGAGTTAG CGGTGGAAAA    2940

TTTACATGTC GTATTTGATG GTAACAAGAG TCCACAAGTG AGTGATCACT ATGGCTTGAA    3000

TGCTATATTA AACTGGAAAT AATAACTGAA AAGAGGTTGG AACTATAAAA TTCCAGCCTT    3060

TTCTTACTAG AGAAGCTACT GGAAATAGCC TAAATAAGTG AGACTACTGT AATGGAATAA    3120

AATATGGTAT AATTGATAAG GTAGATAGAA TCGAGGATGT TATGTCATTT ACGAAATTTC    3180

AATTTAAAAA CTATATTAGA GAAGCCTTGA AGGAGTTAAA ATTTACAACT CCAACAGAGG    3240

TGCAAGACAA GTTGATTCCT ATTGTTTTGG CAGGTCGTGA CCTAGTAGGA GAATCAAAAA    3300

CAGGTTCAGG TAAGACTCAT ACTTTCTTGT TACCGATTTT CCAGCAATTA GATGAAGCTA    3360

GCGATAGTGT ACAAGCAGTG ATTACTGCAC CGAGTCGTGA GTTGGCTACT CAAATTTACC    3420

AAGTAGCGCG TCAGATTTCA GCTCACTCAG ATGTCGAAGT TCGTGTGGTT AATTATGTGG    3480

GTGGTACGGA TAAGGCTCGC CAGATTGAGA AATTGGCAAG CAATCAGCCT CATATTGTTA    3540

TTGAACACC AGGCCGTATC TACGACTTGG TTAAATCTGG TGATTTAGCT ATTCATAAAG     3600

CCAAGACATT TGTTGTTGAT GAAGCAGATA TGACCTTGGA TATGGGATTC TTGGAAACTG    3660
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1055

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TTGATAAGAT TGCTGGCAGT CTTCCAAAAG ACTTGCAATT CATGGTCTTC TCAGCGACTA    3720

TCCCACAAAA ACTGCAACCA TTCTTGAAAA AATACTTATC AAATCCTGTT ATGGAGAAAA    3780

TTAAGACCAA AACGGTTATT TCTGACACCA TTGATAATTG GTTGATTTCG ACCAAGGGAC    3840

ATGATAAGAA TGCTCAAATT TACCAGTTGA CTCAGTTGAT GCAGCCGTAT TTGGCAATGA    3900

TTTTTGTTAA CACTAAAACG CGTGCTGATG AATTGCATTC ATATCTGACT GCTCAAGGCT    3960

TGAAGGTTGC AAAAATCCAT GGCGATATTG CCCCTCGTGA ACGCAAGCGA ATCATGAATC    4020

AGGTGCAAAA TCTGGATTTT GAGTATATTG TCGCAACAGA TTTGGCAGCG CGTGGGATTG    4080

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TTCATCGTGT TGGTCGTACT GGACGAAATG GCCTACCAGG TACAGCTATT ACCCTTTATC    4200

AGCCAAGTGA TGACTCGGAT ATCCGTGAGT TGGAGAAATT GGGAATCAAG TTTAGTCCTA    4260

AGATGGTCAA AGACGGGGAA TTTCAAGATA CCTATGACCG TGATCGTCGT GCCAACCGTG    4320

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AAGTCAAACC GGGTTATAAG AAGAAAATTC AATGGGCGGT TGATGAAAAG CGCCGTAAAA    4440

CCAAGCGTGC TGAAAATCGC GCTCGCGGTC GTGCAGAGCG TAAAGCTAAA CGCCAAACAT    4500

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TAAACCGAAA CACTACATTA AAGACTGCAA ATTGCGATTA AAAATGGTAT AATGATAAAG    4620

TTATATAGTC CCGATAAGAT GGTAGGTATT TATTACGAAG AGTTTTCCTA TCAGTACTTT    4680

GTAACTCTAT AACAATATTT TTTAAGGGGG GACATTTTTA TGTCAGAGCG TAAATTATTC    4740

ACGTCTGAAT CTGTATCTGA GGGGCATCCG GATAAGATTG CAGACCAAAT TTCAGATGCG    4800

ATTTTGGATG CTATTTTAGC AAAGGATCCA GAGGCGCACG TTGCTGCTGA AACAGCTGTA    4860

TATACTGGTT CTGTCCACGT TTTTGGTGAA ATTTCTACAA ATGCCTATGT GGATATTAAC    4920

CGTGTGGTTC GTGATACCAT TGCAGAGATT GGTTATACCA ATACAGAATA TGGATTTTCT    4980

GCTGAGACGG TGGGAGTACA CCCATCTTTG GTGGAACAAT CTCCTGACAT CGCTCAAGGT    5040

GTTAACGAAG CCTTGGAGGT TCGTGGAAAT GCTGATCAAG ATCCACTGGA CTTGATTGGA    5100

GCAGGTGACC AAGGGCTCAT GTTTGGATTT GCAGTAGATG AAACAGAAGA GCTTATGCCA    5160

TTGCCAATTG CACTCAGTCA TAAATTGGTT CGTCGTCTGG CAGAACTTCG TAAGTCTGGA    5220

GAAATTAGCT ATCTCCGTCC AGATGCAAAA TCACAAGTTA CAGTTGAGTA CGATGAAAAT    5280

GACCGTCCGG TACGTGTAGA TACAGTCGTT ATTTCTACTC AGCATGATCC AGAGGCCACT    5340

AATGAACAAA TCCATCAAGA TGTGATTGAC AAGGTCATCA AAGAAGTTAT TCCATCTTCT    5400
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1056

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TATCTTGATG ATAAGACAAA ATTCTTTATC AATCCGACAG GTCGTTTTGT AATCGGTGGT    5460

CCTCAAGGGG ACTCAGGTTT GACTGGTCGT AAGATTATTG TAGATACTTA TGGTGGCTAC    5520

TCTCGTCATG GTGGTGGTGC CTTCTCTGGT AAAGATGCGA CTAAGGTGGA TCGTTCAGCC    5580

TCTTATGCGG CTCGCTATAT TGCCAAGAAT ATCGTTGCAG CAGACCTTGC TAAGAAGGCA    5640

GAAGTGCAGT TGGCCTATGC TATCGGTGTT GCGCAACCTG TTTCTGTTCG TATCGATACT    5700

TTCGGTACAG GAACAGTAGC TGAAAGTCAA CTTGAAAAAG CGGCTCGTCA AATCTTTGAC    5760

CTTCGCCCTG CAGGGATTAT CCAAATGCTG GACCTCAAGC GTCCAATTTA CCGTCAAACA    5820

TCGGCTTACG GTCACATGGG ACGTACAGAT ATTGATCTTC CATGGGAACG TTTGGATAAG    5880

GTAGATGCTT TGAAAGAAGC AGTAAAATAA GATTTTAAGA GGGGAACGTC CTCTCTTTTT    5940

TATAGTTTTT AACTATACTG GGATACTGTT CTGAAAATCC ATTTTGCGAA AGTAGAGATT    6000

TACATGTATA GTAGATTGAA ACTAGAATAG TACACCTCAA CTTCTAAAAC ATTGTTAGCA    6060

ATCAATTTGA CTGTCCTGAT CGATTTCTCC TGTTCTTGTT TCATTTTACT ATATTTCTTT    6120

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AAAGTTTTAT TCGTTATCAC TTGACTATTG CAAGGTTTTC TAGAGCAACA GAGTCATGGA    6240

ATGGACTCAT GGTTGAGATT TCTCCTTGTT GCTTGGACTT CATTCAAAAG TCTGTTACCC    6300

AAGCCTTGTT CAAACTTCTA ATACACTAGC TGTTTCCATA GCATGACTTC TGTACTAGAC    6360

TTTCTTTTCC GAATAAATAG ATAGAACCAC AGAATCTAGT AAACCTAGAA TTAAAATTAT    6420

GGTATAATAT TAGCAATAAA AGAAATCTGG AGGATTAGAA TCATGGTATC AACGAAAACA    6480

CAAAATTGCTG GTTTTGAGTT TGACAATTGC TTGATGAATG CAGCAGGTGT GGCTTGTATG    6540

ACGATAGAGG AGTTAGAAGA GGTCAAAAAC TCAGCGGCAG GAACCTTTGT TACTAAGACA    6600

GCGACCTTGG ACTTCCGTCA GGGGAATCCT GAGCCACGCT ACCAAGATGT TCCACTTGGT    6660

TCCATCAACT CTATGGGCTT GCCAAATAAT GGCTTAGACT ATTATTTGGA TTATCTTTTA    6720

GATTTGCAGG AAAAAGAGTC GAACCGAACT TTCTTCTTAT CTCTGGTCGG CATGTCTCCA    6780

GAGGAAACCC ATACTATTTT GAAAAAAGTC CAAGAGAGTG ATTTTCGTGG TCTGACTGAG    6840

CTAAATCTTT CCTGTCCAAA TGTTCCAGGT AAACCTCAGA TTGCCTATGA TTTTGAGACA    6900

ACAGACCGGA TTTTGGCAGA AGTGTTTGCT TACTTCACCA AACCTCTTGG AATTAAATTG    6960

CCACCTTATT TTGATATTGT TCACTTTGAC CAAGCGGCAG CTATTTTCAA CAAATATCCG    7020

CTCAAGTTTG TCAACTGCGT TAACTCTATC GGAAACGGCC TCTATATAGA AGACGAATCT    7080

GTCGTTATTC GGCCTAAGAA TGGTTTTGGT GGAATTGGTG GAGAATACAT CAAACCGACT    7140

GCTTTAGCCA ATGTTCACGC CTTTTATCAA CGTTTAAATC CTCAAATCCA AATTATCGGA    7200
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1057

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ACAGGTGGCG  TTCTGACTGG  TCGAGATGCC  TTTGAACACA  TCCTCTGTGG  AGCAAGTATG        7260

GTGCAGGTGG  GAACGACCCT  TCACAAAGAA  GGCGTCAGTG  CTTTTGACCG  CATTACCAAT        7320

GAACTGAAAG  CAATCATGGT  GGAAAAAGGC  TACGAGAGCT  TAGAAGATTT  CCGTGGGAAA        7380

TTGCGCTATA  TTGACTAAAT  TAAATCGAAA  AATCTGAAGA  AAGGAGAGAC  GATGCTAGCC        7440

ATTGAAGAAA  GTCAGAAGTT  GACTTTATCA  AATTTACCGA  GCCTGAGCCT  ATTTACAGGG        7500

ACAGATCAGG  GTCAGTTTGA  AGTGATGAAG  AGTCAAATGT  TGAAACAGAT  TGGGTATGAT        7560

TCTGCTGACC  TCAACTTTGC  CTACTTTGAT  ATGAAAGAAG  TAGTTTACAA  GGATGTGGAA        7620

CTGGAGTTGG  TCAGCCTTCC  TTTCTTTGCG  GATGAGAAAA  TCGTGATATT  AGATTATTTT        7680

ATGGATATCA  CGACTGCTAA  GAAACGCTTT  TTGACAGATG  ATGAGCTTAA  GTCATTTGAG        7740

GAATACCTTG  ACAATCCTTC  TCCAACAACC  AAGTTGATAA  TCTTTGCAGA  AGGAAAGCTG        7800

GATAGCAAAA  GACGGTTAGT  CAAATTACTT  AAGCGTGATG  CCAAGGCCTT  CGATGCAGTA        7860

GAAGTAAAAG  AACAAGAATT  GCGCCAGTAC  TTCCAAAAGT  GGAGTCAGAA  ACAAGGTCTG        7920

CAGTTTACCA  ATCATTCTTT  TGAAAATCTC  CTCATCAAGT  CGGGGTTTCA  ATTTAGCGAA        7980

ATCCAGAAAA  ATCTTCTCTT  TTTACAGTCC  TATAAGGCGA  ATTCTGTTAT  TGAGGAAGAG        8040

GATATTGTTA  ACGCAATTCC  CAAGACTTGC  AGGACAATAT  TTTTGATTTA  ACTCAGTTTA        8100

TTCTGACTAA  AAAGATGGAT  CAGGCGCGCG  ATTTGGTGAG  AGACTTGACC  TTGCAAGGGG        8160

AAGATGAAAT  CAAACTGATT  GCAGTCATGC  TGGGACAATT  TCGGACTTTT  ACTCAGGTGA        8220

AGATTTTGGC  GGAGTCTGGC  CAAACAGAAT  CGCAGATTGC  AAGTAGTTTA  GGTAGTTATC        8280

TGGGACGTAA  CCCAAATCCT  TATCAAATCA  AGTTTGCATT  AAGAGATTCG  AGAGGACTTT        8340

CTTTGAGCTT  TTTGAAGCAA  GCTATTTCCT  ATTTGATTGA  GACAGACTAT  CAGATTAAGA        8400

CAGGTCTTTA  TGAAAAAGGT  TTCCTTTTTG  AAAAGGCACT  CTTACAGATT  GCTAGTCAGG        8460

TCAATTGACA  TTTGTTGAAA  CTACTAACCC  GCGG                                      8494
```

(2) INFORMATION FOR SEQ ID NO: 164:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 9707 base pairs
         (B) TYPE: nucleic acid
         (C) STRANDEDNESS: double
         (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 164:

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CCGGTCAGTT  CGTTCAGTAC  AAGGAATCAT  AATGAACGAT  CAATCAGAAA  AAAAGACTAG          60
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                                    1058
AAAGAAGACT GTATGGATAA TCGACCAATT GGTTTTTTGG ATTCGGGTGT CGGGGGCTTG     120

ACCGTTGTGC GCGAGCTCAT GCGCCAGCTT CCCCATGAAG AAATCGTCTA TATTGGAGAT     180

TCGGCGCGGG CGCCCTATGG CCCCCGTCCT GCTGAGCAAA TTCGTGAATA TACTTGGCAG     240

CTGGTCAACT TTCTCTTGAC CAAGGATGTC AAAATGATTG TCATTGCTTG TAACACTGCG     300

ACTGCGGTCG TCTGGGAAGA AATCAAGGCT CAACTAGATA TTCCTGTCTT GGGTGTAATT     360

TTGCCAGGAG CTTCGGCAGC CATCAAGTCC AGTCAAGGTG GGAAAATCGG AGTGATTGGA     420

ACGCCCATGA CGGTACAATC AGACATATAC CGTCAGAAAA TCCATGATCT GGATCCCGAC     480

TTACAGGTGG AGAGCTTGGC CTGTCCCAAG TTTGCTCCCT TGGTTGAGTC AGGTGCCCTG     540

TCAACCAGTG TTACCAAGAA GGTGGTCTAT GAAACCCTGC GTCCCTTGGT TGGAAAGGTG     600

GATAGCCTGA TTTTGGGCTG TACTCATTAT CCACTCCTTC GCCCTATTAT CCAAAATGTG     660

ATGGGGCCAA AGGTTCAGCT CATCGATAGT GGGGCAGAGT GCGTACGGGA TATCTCAGTC     720

TTACTCAATT ATTTTGAAAT CAATCGTGGT CGCGATGCTG GACCACTCCA TCACCGTTTT     780

TACACAACAG CCAGTAGCCA AAGTTTTGCA CAAATTGGTG AAGAATGGCT GGAAAAAGAG     840

ATTCATGTGG AGCATGTAGA ATTATGACAA ATAAAATTTA TGAATATAAG GATGACCAGG     900

ACTGGTATGT TGGGTCTTAT AGTATTTTTG GTGGCGTTAA CAGTTTGAGC GACTATAAGA     960

CAGATTTTCC TCTGTTTGAA TTCTCCAAAA TATTTGGAGA TGAAGAGTAT GGTTTCCCGC    1020

TTTCAGTTAC TGTTTTACGC TATGGTTCTA TCTACCGTTT GTTCTCCTTT GTGGTAGACA    1080

TGCTTAATCA AGAAATGGGA CGAAACTTGG AAGTTATTCA ACGTCATGGG GCCCTGCTCT    1140

TGGTTGAAAA TGGGCAACTC TTGTATGTAG AATTGCCTAA AGAAGGGGTC AATGTTCATG    1200

ATTTCTTTGA GACAAGCAAG GTCAGAGAAA CCTTGTTGAT TGCGACTCGT AACGAAGGTA    1260

AAACCAAGGA ATTCCGAGCT ATCTTTGATA AGTTAGGCTA CGATGTGGAA AATCTTAATG    1320

ACTACCCTGA CCTGCCTGAA GTAGCAGAAA CAGGTATGAC CTTTGAAGAA AATGCCCGCC    1380

TTAAGGCAGA AACCATTTCT CAATTAACGG GCAAGATGGT TTTGGCAGAT GATTCTGGTC    1440

TCAAAGTCGA TGTCCTTGGT GGCTTACCAG GCGTCTGGTC AGCTCGTTTC GCAGGTGTGG    1500

GAGCAACTGA CCGTGAAAAT AATGCCAAAC TCTTGCACGA ATTGGCCATG GTCTTTGAAC    1560

TCAAGGACCG CTCGGCTCAG TTCCACACAA CCCTAGTCGT AGCCAGCCCA AATAAGGAAA    1620

GTTTAGTTGT TGAAGCAGAC TGGTCAGGTT ATATTAACTT TGAACCTAAG GGTGAAAATG    1680

GCTTTGGCTA TGATCCCCTC TTCCTTGTAG GAGAAACAGG TGAGTCATCA GCTGAATTAA    1740

CCCTGGAAGA AAAAAATAGT CAATCTCACC GTGCCTTAGC CGTTAAGAAA CTTTTGGAGG    1800

TATTTCCATC ATGGCAAAGC AAACCATCAT TGTAATGAGC GATTCCCATG GCGATAGCTT    1860
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1059

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GATTGTGGAA GAAGTCCGTG ATCGCTATGT GGGCAAAGTC GATGCTGTTT TTCATAACGG        1920

CGATTCTGAA CTACGTCCGG ATTCTCCACT TTGGGAGGGC ATCCGCGTTG TTAAAGGGAA        1980

CATGGACTTC TACGCCGGCT ACCCAGAACG TCTGGTGACT GAGCTTGGTT CGACCAAGAT        2040

TATCCAAACT CATGGTCACT TGTTTGACAT CAATTTCAAC TTTCAAAAGT TGGACTACTG        2100

GGCTCAGGAG GAAGAGGCCG CTATCTGCCT CTATGGTCAC TTGCATGTGC CAAGTGCTTG        2160

GTTGGAAGGC AAGATCCTCT TTCTAAATCC AGGTTCTATC AGTCAACCAC GAGGTACCAT        2220

CAGAGAATGT CTCTATGCTC GTGTGGAGAT TGATGATAGT TACTTCAAAG TGGACTTTTT        2280

GACACGAGAT CACGAGGTGT ATCCAGGTTT GTCCAAGGAG TTTAGCCGAT GATTGCCAAG        2340

GAGTTTGAGA CTTTCTTGTT GGGGCAGGAG GAAACTTTTT TGACCCCTGC TAAAAATCTA        2400

GCTGTGTTGA TTGATACCCA CAATGCGGAT CATGCGACCC TCTTGCTCAG TCAGATGACC        2460

TATACCCGTG TTCCCGTTGT GACAGATGAA AAACAGTTTG TTGGGACGAT TGGACTCAGA        2520

GATATTATGG CTTATCAGAT GGAGCATGAC TTGAGCCAAG AAATCATGGC GGATACGGAT        2580

ATCGTTCATA TGACAAAAAC GGACGTAGCG GTTGTTTCGC CTGATTTCAC CATTACGGAG        2640

GTCTTGCACA AGCTAGTAGA TGAGTCCTTC TTACCGGTTG TGGATGCAGA GGGTATTTTC        2700

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GGCAGACCTA TCTTTTTGAA AGAGGAGAGA AACCCTATTC TCGTCAGTGG GCCTTTCGTC        3360

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AACAGTTTAT TCTAAGACAA ATAGAAAACA AGGTCGATTT GTACGAAATT GCAAAAAAAT        3480

TAGGATTAAA AACAGTCCTG ACCTTAGAAA AATATAGATA ATGGATATTA AATTAAAAGA        3540

TTTTGAAGGA CCCCTGGACT TGCTCTTGCA TCTGGTTTCT AAGTACCAGA TGGATATCTA        3600
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                              1060
CGATGTGCCC ATTACGGAAG TCATCGAACA GTATCTAGCC TATGTCTCAA CCCTGCAGGC    3660

CATGCGTCTG GAAGTGACGG GTGAGTACAT GGTCATGGCT AGTCAGCTCA TGCTGATTAA    3720

GAGTCGTAAA CTCCTTCCGA AGGTAGCAGA AGTGACAGAC TTGGGGGATG ACCTGGAGCA    3780

GGACCTCCTC TCTCAAATCG AAGAATATCG CAAGTTCAAG CTCTTGGGTG AGCACTTGGA    3840

AGCCAAGCAC CAAGAACGGG CCCAGTATTA TTCCAAAGCG CCGACAGAGT TGATTTACGA    3900

AGATGCGGAG CTTGTGCATG ACAAGACGAC CATTGACCTC TTTTTGACTT TTTCAAATAT    3960

CCTAGCCAAG AAAAAAGAGG AGTTTGCACA AAATCACACG ACGATCTTGC GGGATGAGTA    4020

TAAGATTGAG GACATGATGA TTATCGTGAA AGAGTCCTTG ATTGGACGAG ATCAATTGCG    4080

CTTGCAGGAT TTGTTCAAGG AAGCCCAGAA TGTCCAAGAG GTCATCACCC TCTTTTTGGC    4140

AACCCTAGAG TTAATCAAAA CCCAGGAGTT GATCCTCGTG CAAGAGGAGA GTTTTGGAGA    4200

TATCTATCTC ATGGAAAAGA AGGAAGAAAG TCAAGTGCCT CAAAGCTAGA CTTGATAGAG    4260

AGGAAAGATG AGTACTTTAG CAAAAATAGA AGCGCTCTTG TTTGTAGCGG GTGAAGATGG    4320

GATTCGGGTC CGCCAGTTAG CTGAACTCCT CTCTCTGCCA CCGACAGGCA TCCAGCAAAG    4380

TTTAGGAAAA TTAGCCCAGA AGTATGAAAA GGACCCAGAT TCCAGTTTGG CTTTGATTGA    4440

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CTATCTACAA CGAAGAAAAG GTCTACTATC TGCTTAACAA ACCACGCGGT GTGATTTCCA    5040

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GTATTTACCC TGTGGGTCGT TTGGACTGGG ATACATCAGG TGTCTTGATT TTGACCAATG    5160

ATGGGGACTT TACAGACGAG ATGATTCACC CTCGTAATGA GATTGACAAG GTTTATGTCG    5220

CGCGTGTTAA AGGTGTGGCC AATAAGGACA ATCTCCGCCC CTTGACCCGT GGTCTTGAGA    5280

TTGATGGTAA GAAAACCAAG CCAGCTGTTT ATGAAATTCT CAAAGTGGAC CCAGTCAAAA    5340

ATCGCTCTGT GGTGCAGTTG ACCATCCATG AAGGGCGTAA CCATCAGGTT AAAAAGATGT    5400
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1061

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TTGAAGCTGT TGGTCTCCAA GTAGATAAGT TGTCTCGGAC TCGTTTCGGA CACCTAGACT      5460

TGACAGGACT CCGTCCAGGA GAATCCCGTC GTCTTAATAA AAAAGAAATC AGCCAACTAC      5520

ACACCATGGC TGTAACTAAG AAATAATGAA ACGAATTTTA ATAGCGCCTG TGCGCTTTTA      5580

CCAACGTTTT ATCTCACCAG TCTTTCCACC CTCTTGTCGC TTTGAGCTGA CTTGTTCCAA      5640

CTACATGATT CAGGCTATTG AAAAACATGG GTTTAAGGGG GTATTGATGG GCTTGGCTCG      5700

GATTTTACGT TGTCATCCCT GGTCGAAAAC AGGTAAGGAC CCCGTTCCAG ACCGCTTTTC      5760

CCTTAAACGA AATCAAGAAG GGGAATGAGG TGGGGTAAAT AGATTTCAAA ATGATAAAAA      5820

CGCATCCTAT CAGGTTTGAG TGAACTTGAT AGGATGCGTT TTAGAATGTC AAAATTTTAT      5880

ACTCTTCGAA AATCTCTTCA AACCGCGTCA GCTTTCATCT GCAACCTCAA AACAGTGTTT      5940

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GCTTGCTTGG AAGAGAACGG TTGGGGCGAT TTCTTTGAAT TTGTCTACGA ATTTTTGTGT      6600

ACGTGGCGAA GCGATAATCA AATCAGGCTC AAGGGCGGCG ATAGCTTCTA AATCAGGTTC      6660

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GCCGAGGTCA AAGGTCACAA TCTTTTCAGG AACTTTGGAA AGTTTGACCT CGTCCAGTGA      6840

ACTTTTAATG GTTACCTCTG TTGGAGCAGA GCTACTGGTC TCTGTCTGAC TAGTGCTTGA      6900

GTTTGTACTA CATGCACCAA GTAGGAGCAA GAAGCTGGCC ACTAGGGCAG TGAAATAAAG      6960

TTTAAGGGAT GTTTTCATAA TTTCTCCTTT TTAAAATGTG ATAACGATTT AGGGAGTCTC      7020

TTAATCTTAT TGACTAAGAG ACTGAAGGTT CTCTAACTTG AGCTTTTATG TTACTAGCTA      7080

TAGATACAGA TCTTTTTGTC ATTGATATCA GCTAGCGTGA TGGGAATCTC ATAAAGTTGA      7140
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                                 1062
CTGAGCAGGT CAGCCTGCAT GATTTGATCG GTTCTTCCCT TGCTAAAGAC CTGGCCGTCC          7200

TTGAAGGCGA CAATTTCATC TGCATACTGA CTGGCCATGT TGATATCGTG GAGGACGATG          7260

ATAATGGTCT TGCCGAGTTC CTCCACCAGT CGTCGAAGAA TCTGCATCAT GCTGACGCTT          7320

TGCTTGATAT CGAGATTGTT GAGTGGTTCG TCCAGCAAGA TAAAGTCCGT ATCCTGGGCC          7380

AGTACCATAG CGATAAAGAC GCGCTGGAGT TGCCCCCCTG ACAGGCTATT GATGTAGCGG          7440

TCTTTTAAGT TGGTCAGTTC TAAATAGTTC AGAGTTTCTC GGATTTTTTC CCAGTCTTCT          7500

GATCTAAGTC GACCTCGGCT GTAGGGAAAA CGTCCAAAAC TGACCAGTTC TTCAACAGTC          7560

AATTTGGCTT GGTAATTGAT TTTCTGTTTT AGGATGGTTA GTTCTTGGGC CAGTTCTTGC          7620

GAATTCCAGC TCTCGATTTC ACGTCCTTTG ATACTGAGAA CTCCCTGATC TTTCTTGGTT          7680

AGCCTGCTCA TGATGGAGAG GAGAGTCGAT TTTCCAGCAC CATTTGGACC AATAAAGGCT          7740

GTCAGTTTTT GAGGACTGAC TTCAAGCGAA ATGCCTTGCA AAATATCCTG TTTTTGAATG          7800

GATTTGTCAA TGTTTTCCAG TTTCACTGAC GAGACCTCCT ATATAGTAAG ATAAAGAATA          7860

AGAAGCCACC CACACTCTCA ATGATCATAC TGATACGAAT TTCCAGTGCA AAGACTCGTT          7920

CAATCAAGGC TTGCCCCAAG GTTAAGCTAA TAAATCCAAC CAGAATGGCC ACTATAAAGA          7980

GTAACTTGTG CTGATAGTCT TTGACAATCA GGTAGGTGAG GTTGGCCAGT ATAAAGCCGA          8040

AGAAGGCCAT AGGTCCTACC AAGGCAGTGG CCGTTGAGGT CAAAAGCACG ATTCCCCAGA          8100

GGAGCTCTTT CTGTTCTTTT TCAACATCGA GTCCCAATAT CTGAGCCGTT TCTCTTTGCA          8160

GGTGCAAGAC ATCTAGAACG ACTGCTTTTC GAAAGAAAAA GATTGTCAAA GCGAGGATGA          8220

TCAGAGAACC GATGGCTAGG ATGGAAGTGT TGAGATGTTG AAAGGAGGCA AAAAGACTAT          8280

TTTGCAGTTT ATCGTATTCG TTTGGATCCA TTAGGACTTG AAGGAAGGTG CTGATATTTC          8340

GAAAGAGACT TCTGAGCGCT AGACAGATCA GCAGGACGAA GACCAGGTCT TGCTTCATCA          8400

GTGTCTTCAA GTAACCTTGT AAGGCGAGAA AGAAGAGGGA CTGGACAAGA AGTAAGACTA          8460

GGAATTCTAA GATAGGGGAT TTGCCAAGTT GAAGAAACTT GCTTTCAAAA ACCAGTAGTA          8520

GGGTTTGTAG TAGGACGTAG AAGGATTCAA TTCCCAAAAT ACTAGGCGTC AGGAAGCGAT          8580

TTTCCGTCAG GGTTTGAAAA CTAATGGTCG AAATCCCAGT CGCGATGGCT ACCAAGAGAT          8640

AAACGATGAT CTTTTGGGAA CGCAACTTCC AAGCAAAGGC TGACAAGTGA GTGATGGGCC          8700

AAAAGTAGAG AAGACAAGCT CCGATGGCAA GAATAATGAG AATCCAGAAG AGCTTGGTAT          8760

GTTTGCTTTT AGTCTGCATC TTTTCGTCCC CCTCTCCAGA GAAGTAGGAT AAAGACGAGA          8820

CTACCGATGA TTCCTAGCAA GAGACTGACA GACAACTCAT AGGGCCTAAT CAGAACTCGG          8880

GATAGGATAT CGCAAGCCAG AACTAGATTG GCACCAACCA GTGCGACCAT GAGTTTGGTT          8940
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1063

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TGACTTAGAT TATCTCCATA GCGCTTGCGA ACAAGATTGG GAACGATAAC TCCGAGAAAT      9000

GGTAGGCCAC CCACGGTAAT CATGGTGACG CTTGTCGTTA GCGCCACCAG AAAGAGGGCC      9060

AGTTTTTCAA GTAGGGAGTA GGAAATCCCC AAACTCTCGC TGGTTTCTTT CCCTAGATTC      9120

ATGATGGTGA AGGTTTGGGA TAATTTCCAA ACGGTTATCA GGATGATGAG GCCTAAGAAG      9180

AGCCACTCAT ACTGATGGGT CTGAATCATG GAGAAGGAGC CCTGGGTCCA GGCAGTCATA      9240

CTCTGAACCA GATTGAAACG ATAGGCGATA ACTTCTGTGA CTGAGCCGAT AATCCCGCTA      9300

TAGATGATCC CAATCAGAGG CAACATCCAC CTTTCCTTTA CAGTAAAAAT GGTCATAAAG      9360

GCTAGGAAGA AGAGGGTGAA TACGATGGAT GAAACAAAAG CGAAGAGCAT CTTGTGGGTC      9420

AGACTAGCCG ATGGAAAGAC AAAAAGGCTC AGCACCATTC CCAGTTTGGC GGCTTCAGTC      9480

GTTCCAACTG TACTCGGTGC AGCAAACTGA TTTTGGGTAA TAGTCTGCAT GAGAAGGCCT      9540

GCCATACTCA TACTAGAGGC AGTCAGGAGA ATACTGATAG TTCTTGGGAG ACGGGACTCT      9600

TGAAAGAGGA GCCAGGTCTG CTGGTCGAAA TCAAATAGCT TTCCCCATGA AAAATCACTG      9660

GTCCCAATGC TAATAGAGAG AAAGACTAGG AGTAGAAGTA AGCCAGG                    9707
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(2) INFORMATION FOR SEQ ID NO: 165:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 5910 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 165:

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CCGCAATTAT GCTTGAAAAG GAGTATACTT ATAAGTAACG CAAACGTTTG CGTCTGAAAA       60

ATACGCAACG TTCCATTATT TTAACACACG AGGTGCTATT ATGAAAAAAC GTCAAAGTGG      120

TGTGTTGATG CACATCTCTT CTCTTCCAGG AGCTTACGGA ATCGGATCAT TTGGTCAAAG      180

TGCTTACGAC TTCGTTGATT TCTTGGTCCG TACAAAACAA CGTTACTGGC AAATCCTTCC      240

ATTAGGAGCA ACTAGTTACG GGGATTCTCC TTACCAATCT TTCTCAGCCT TCGCAGGAAA      300

CACTCATTTT ATCGATTTAG ATATCTTGGT GGAGCAAGGT TTGTTGGAAG CAAGTGACCT      360

TGAAGGAGTT GACTTTGGTA GCGATGCGTC TGAAGTTGAC TATGCTAAAA TCTACTATGC      420

ACGTCGTCCT CTTTTAGAAA AAGCGGTGAA ACGTTTCTTT GAAGTCGGAG ATGTTAAAGA      480

TTTTGAGAAA TTTGCTCAAG ACAACCAATC ATGGCTTGAG CTCTTTGCTG AGTATATGGC      540

TATCAAAGAG TATTTTGACA ATCTTGCTTG GACTGAATGG CCAGATGCAG ATGCTCGTGC      600
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                                   1064
TCGTAAAGCT TCAGCACTTG AAAGCTATCG TGAGCAATTG GCAGACAAGT TGGTTTACCA        660

CCGTGTGACT CAATACTTCT TCTTCCAACA ATGGTTGAAA TTGAAAGCTT ACGCTAACGA        720

CAACCACATC GAAATCGTTG GGGACATGCC AATCTACGTA GCGGAAGATT CAAGTGATAT        780

GTGGGCAAAT CCACATCTCT TCAAAACAGA TGTCAATGGT AAGGCTACTT GTATCGCAGG        840

ATGCCCACCA GATGAGTTTT CTGTAACTGG TCAGCTTTGG GGTAATCCAA TCTATGACTG        900

GGAAGCAATG GACAAAGACG GCTACAAATG GTGGATTGAA CGCTTGCGTG AAAGCTTCAA        960

AATCTACGAT ATCGTTCGTA TCGACCACTT CCGTGGCTTC GAATCTTACT GGGAAATCCC       1020

TGCTGGTTCC GATACAGCAG CACCTGGTGA GTGGGTGAAA GGTCCAGGTT ACAAGCTTTT       1080

TGCAGCCGTT AAGGAAGAAC TTGGTGAGCT AAACATCATC GCAGAAGACC TTGGCTTCAT       1140

GACAGATGAA GTGATCGAAT TGCGTGAACG TACTGGCTTC CCAGGAATGA AGATTCTTCA       1200

ATTTGCCTTC AACCCAGAAG ACGAAAGCAT TGATAGCCCA CACTTGGCAC CTGCTAACTC       1260

AGTTATGTAC ACAGGAACAC ACGATAACAA TACGGTTCTT GGTTGGTACC GTAATGAGAT       1320

TGATGATGCG ACTCGTGAGT ACATGGCTCG TTACACGAAC CGTAAAGAAT ACGAAACAGT       1380

GGTACACGCT ATGCTTCGTA CAGTATTTTC ATCAGTTAGC TTTATGGCAA TTGCAACTAT       1440

GCAAGATTTA CTAGAATTGG ATGAGGCAGC TCGTATGAAC TTCCCATCTA CCCTTGGTGG       1500

AAACTGGTCT TGGCGTATGA CTGAAGATCA ATTGACACCA GCTGTCGAGG AAGGTTTGCT       1560

TGACTTGACA ACAATTTATC GCCGAATTAA TGAAAATTTG GTAGATTTAA AGAAATAAGA       1620

CAATAATCAG GAGACAACTA AACATGTTAT CACTACAAGA ATTTGTACAA AATCGTTACA       1680

ATAAAACCAT TGCAGAATGT AGCAATGAAG AGCTTTACCT TGCTCTTCTT AACTACAGCA       1740

AGCTTGCAAG CAGCCAAAAA CCAGTCAACA CTGGTAAGAA AAAAGTTTAC TACATCTCAG       1800

CTGAGTTCTT GATTGGTAAA CTCTTGTCAA ACAACTTGAT TAACCTTGGT CTTTACGACG       1860

ATGTTAAAAA AGAACTTGCA GCTGCAGGTA AAGACTTGAT CGAAGTTGAA GAAGTTGAAT       1920

TGGAACCATC TCTTGGTAAT GGTGGTTTGG GACGTTTGGC TGCCTGCTTT ATCGACTCAA       1980

TTGCTACTCT TGGTTTGAAT GGTGACGGTG TTGGTCTTAA CTACCACTTT GGTCTTTTCC       2040

AACAAGTTCT TAAAAACAAC CAACAAGAAA CAATTCCAAA TGCATGGTTG ACAGAGCAAA       2100

ACTGGTTGGT TCGCTCAAGC CGTAGCTACC AAGTACCATT TGCAGACTTT ACTTTGACAT       2160

CAACTCTTTA CGATATTGAT GTTACTGGTT ATGAAACAGC GACTAAAAAC CGCTTGCGTT       2220

TGTTTGACTT GGATTCAGTT GATTCTTCTA TTATTAAAGA TGGTATCAAC TTTGACAAGA       2280

CAGATATCGC TCGCAACTTA ACTCTCTTCC TTTACCCAGA TGATAGTGAC CGTCAAGGTG       2340

AATTGCTCCG TATCTTCCAA CAATACTTCA TGGTTTCAAA CGGTGCGCAA TTGATCATCG       2400
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1065

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ACGAAGCAAT CGAAAAAGGA AGCAACTTGC ATGACCTTGC TGACTACGCA GTTGTCCAAA      2460

TCAACGATAC TCACCCATCA ATGGTGATTC CTGAATTGAT TCGTCTTTTG ACTGCACGTG      2520

GTATCGATCT TGACGAAGCA ATCTCAATTG TTCGTAGCAT GACTGCCTAC ACTAACCACA      2580

CAATCCTTGC TGAAGCGCTT GAAAAATGGC CTCTTGAATT CTTGCAAGAA GTGGTTCCTC      2640

ACTTGGTACC AATCATCGAA GAATTGGACC GTCGTGTGAA GGCAGAGTAC AAAGATCCAG      2700

CTGTTCAAAT CATCGATGAG AGCGGACGTG TTCACATGGC TCACATGGAT ATCCACTACG      2760

GATACAGTGT TAACGGGGTT GCAGCACTCC ATACTGAAAT CTTGAAAAAT TCTGAGTTGA      2820

AAGCCTTCTA CGACCTTTAC CCAGAAAAGT TCAACAACAA AACAAACGGT ATCACTTTCC      2880

GTCGTTGGCT TATGCATGCT AACCCAAGAT TGTCTCACTA CTTGGATGAG ATTCTTGGAG      2940

ATGGTTGGCA CCATGAAGCA GATGAGCTTG AAAAACTTTT GTCTTATGAA GACAAAGCAG      3000

TTGTCAAAGA AAAATTGGAA AGCATCAAGG CTCACAACAA ACGTAAATTG GCTCGTCACT      3060

TGAAAGAACA CCAAGGTGTG GAAATCAATC CAAATTCTAT CTTTGATATC CAAATCAAAC      3120

GTCTTCACGA GTACAAACGC CAACAAATGA ACGCTTTGTA CGTGATCCAC AAATACCTTG      3180

ACATCAAAGC TGGTAACATC CCTGCTCGTC CAATCACAAT CTTCTTTGGT GGTAAAGCAG      3240

CTCCAGCCTA CACAATCGCT CAAGACATTA TCCATTTAAT CCTTTGCATG TCAGAAGTTA      3300

TTGCTAACGA TCCAGCAGTA GCTCCACACT TGCAAGTAGT TATGGTTGAA AACTACAACG      3360

TTACTGCAGC AAGTTTCCTT ATCCCAGCAT GTGATATCTC AGAACAAATC TCACTTGCTT      3420

CTAAAGAAGC TTCAGGTACT GGTAACATGA AATTCATGTT GAACGGAGCT TTGACACTTG      3480

GTACTATGGA CGGTGCTAAC GTGGAAATCG CTGAGTTGGT TGGAGAAGAA AACATCTACA      3540

TCTTCGGTGA AGATTCAGAA ACTGTTATCG ACCTTTACGC AAAAGCAGCT TACAAATCAA      3600

GCGAATTCTA CGCTCGTGAA GCTATCAAAC CATTGGTTGA CTTCATCGTT AGTGATGCAG      3660

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ACTGGTTCAT GACTCTTCTT GATTTGGAAG ACTACATCAA AGTCAAAGAG CAAATGCTTG      3780

CTGACTACGA AGACCGTGAC GCATGGTTGG ATAAAGTCAT CGTTAACATT TCTAAAGCAG      3840

GATTCTTCTC ATCTGACCGT ACAATCGCTC AGTATAACGA AGACATCTGG CACTTGAACT      3900

AATACTCTTC GAAAATCTCT TCAACCACG TCAGCTTTAT CTGCAACCTC AAAGCAGTGC      3960

TTTGAGCAAC TGCGGCTAGC TTCCTAGTTT GCTCTTTGAT TTTCATTGAG TATAAGTAC      4020

AAATTTATAC TAATACATTT TGTAAAAAAG CGAGTTTCGA TTGAAATTCG CTTTTTTAAT      4080

GATGTAGATT TGGGTCAATC TTGTCTAAAA ATAGGGAAAT CCTAGATACA GTGAAGGCTT      4140
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1066

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TAAATGCTGG TTTTTACTGT CCTCAGCCTT ATATTTTTTC GTAGTTGGTT ACCTCATATC    4200

TATTATATTC GCTTACATAA AGTATTATAA TATAATTGTA GGAAAGAAGG TGTTTTTATG    4260

ATATACACAC TTAAATTGGT GTTGTTTATT ACCTTTCTTG TAATAAGCTT GTTACCTGAT    4320

AAGATTTTTG GAAAAAATAA AAAAATTTGG AAAATAGTTT TTGCAATATT GACGGCAGTG    4380

GCAGCATTGT CATTTATGTA CTAAGTTATT TTAAGAATGT AGGGAAATAA ACCCTACATT    4440

CTTTTTAGTT TTTTCTGTTT TCTAAATTCT ATTTATCCAA GCGATTCAAC ATTTCTTGCT    4500

TCTTCGCTTC AAGTTCTGCA CGCTTTTCTT CGATTTCGGC ATGTTTTTTC TCGAGTTCAG    4560

AACAACTTGC ACCATTGCTA AATTCTTTTC GCCATCAGGA GATAGGGTGA GTCGACATGT    4620

CTATTACTCA CCCAAAGCAG TCCTACAAAG CAGGAATTTT CTGTTACTTT TTTGGAAATA    4680

GTAACGTTTA TACAGCTTTG ACACTTCGTA TCAAAGCGCC AAACACACTC CGAGGGGTTT    4740

ACAGAAAGCA GAAAAGGAAT GATCTGGTAT AAGATCATTC CTTTTCyCTC TTTTTCTTTA    4800

AGTAATTATA TACAATGTAC GACGAAGTCG TCATTGCAAT GCTGATCCAC CACCTAAAGG    4860

GAACTTTAAA CAACATTGAT AAGATAAAGA ATATAAACAA CGAAAATACG TTATACCCAA    4920

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CTTTTCTCCT TTTTATTTGC ATCTGCTTAC ATTTTATCAT ATACTGTTAT TATAGTCAAA    5580

AAAATATGCT ATTATGTTAA AAAAATATTT TTCAAAATAT AAATGGACGG ATTTATTTTG    5640

GATTTTATTT GTTATTTTGA CCTGCCTCTA TATTGGTAAC CATGATTTGT TTACTCTCAA    5700

TCATCAAGAA TTCTCTTTTC GTGGTAGCGT TTGGGGTCTG GTACTGGCCT TATATCACTT    5760

ACTATTCATT GATAAGTTTG TTATATCGAA TCGAAAATAA AGATTAGAGC TATGCTTGAC    5820

TGTGTACTTT TAGGATTTAT TTTGGAGGAA GATTTTGTCT CTATTATTTA TTATTTTAAA    5880

TTTATTTATT TTGTATAAGA TCTATTCTTT                                     5910
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1067

(2) INFORMATION FOR SEQ ID NO: 166:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5406 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 166:

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GGCATAGCGA CTCATTTTTT CAACTGTCCA GGCTGGATAC CAGACTAATT TAACCTCAGT      60

ATCCGTTACT TCTGGAACCT CTATCATAGC ATCATAAATC TGGTCTGTCA AAAGGTCTGC     120

TAAGGGACAA CCCATAGTTG TCAAAGTCAT GTCAATCTCT GTTTGCCCTG TGTCACCGTC     180

AAAACGAATC TCATAGATCA AACCAAGATT GACAATATCG ATTCCCAACT CAGGGTCGAT     240

GACTTCTTCC AAGGCTGTTA AAATCCGTGT TTTGATGTTT TCAATTTGCT CTTCTGTATA     300

AGCCATATTT TCCTCACTCT TAGTCTTCAA TAAAATCACG AAGCGGTTTG CTACGACTTG     360

GTTGGCGTAG TTTTCTCAAA GCCTTTGCTT CAATCTGACG GATACGCTCA CGAGTTACGT     420

TAAAGACTTT CCCCACATCT TCAAGTGTGC GCATTTTTCC ATCATCTAGT CCAAAACGTA     480

GACGCAGAAC ATTTTCTTCA CGGTCTGTAA GAGTATCTAA GATTTCATCC AATTGCTCAC     540

GCAAGACGAT ACGAGTCGTA TAATCCACTG GATTTTCAAT CACTTCATCT TCGATAAAGT     600

CTCCAAGGTG GCTATCGTCC TCTTCACCGA TAGGAGTTTC AAGAGATACT GGTTCTTGGG     660

CAATCTTCAA GATTTCACGA ACCTTATCAG GTGTCATATC CATTCGTTCA GCAATCTGTT     720

CTGGTGTCGG ATCTTGCCCC AATTCTTGAA GGAGATTCCG CTGTTCACGA ACCAATTTAT     780

TGATAGTTTC AACCATGTGA ACTGGGATAC GGATGGTACG AGCTTGGTCC GCAATAGCAC     840

GAGTGATAGC CTGACGAATC CACCAAGTTG CATAAGTTGA AAACTTGAAC CCTTTAGAAT     900

AGTCAAACTT GTCAACCGCC TTCATCAAGC CCATATTTCC TTCTTGAATC AAGTCAAGGA     960

ACTGCATACC ACGACCGACA TAGCGTTTGG CAATGGAAAC AACCAAACGA AGATTGGCTT    1020

CCGCAAGACG TTGTTTGGCT TCGATATCAC CAGCTTCAAC AGCCAGTGCC AACTCTTTCT    1080

CCTCTTCATT GGTCAAGAGA GGAACGACCC CTATTTCTTT CAAGTACATA CGGACAGGGT    1140

CATTGACCTT AGCAGAAGTT GACCCAATCA AGTCCTCATC GCTGAGTTCT GGTTCTTCTT    1200

CATTGCTGAG AACACGCGCA CTTGGATTTC CTTCGTTATC TGTGATAGAA ATGCCTGCAT    1260

CCTGAATCCG TTGCAAGAGA TCTTCAATCC CATCAGCGTC CAAGGTAAAA GGAATAACCA    1320

GACTTGCATT GATTTCATCA TCTGTTGCTG TCCCTTTTTG CTTATGATTA CGGATAAATT    1380
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                                    1068
CTGCTACCTG TACGTCAAAT GTTGTTACTT CTTTTTGTTT TGTTGCCATT ATTACTCCAT        1440

TCTTCTCTTT TGGGAAATTA AACGTTCCAA TTCTTCTAGG GCTGTATCTG TATCTCCTAC        1500

ATGGCTAGCT TCCTGCACCT TCTTTTTGAT TCTCATATTG TCCTGATTCA AGAGAGCCTT        1560

GTTTCGAGTC ATCTCTACTT CACTAAGTTC CTGCGGCGAT ATCTCAGCAG GCAAATCCTG        1620

AGCTAAAACT TGGTACCAAG CTCTTTCAAC TTCCTCTGTC TGCTCTGCTA AAACTTCTGG        1680

AGGAAGATTT CCATACTGGC CAAGCAAGTC ATATAAGACC TGAAATTCAG GTGTAGCAAA        1740

TGCAAAGTCT TCTCGCAAAC GGTAATCGTT CAAAACAAGA GGGGATTCCA TCATCCGATA        1800

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TGGCGTCGGT CTGGAAATTC CTTCCATGCG ATTCTGCCTT TGCACCTGAC GACTCTCATT        1920

AACAATCTGC TCAATCTGGG TATAATCAAA GGACGCCAGA CTGTCAGCTA AAATATGAAT        1980

ATAGCTGTTT TGAGCAGCGA TGGACTTTTC TTGAACAATC AAGGGAGCTA TTTTTTTCAAG       2040

AAACTCAATC TGAGCCTGCA GATTTTCACT GTTTTCAGGT TTGTACTGAT GAATGTAGAA        2100

CTCAATCGGA CTAATACGAG TTTTCGTTAA TAGATAGGCC AAGTCTTCTG GACCATTTTT        2160

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ACCAATTTCA TCCAATGCTT TCAATGTCGC GGCTTGCCCA GCCTTATCTC CATCGTAAAC        2280

AAGAACCAAT TTCTTGGTTA ACCTTTTCAG ATGCTCAACA TGCTCTCGAC TCAAGGCTGT        2340

TCCCATCGAC GCCACAGCAT TTTCGATTCC AGCCCGATAG GCTGCAATAA CATCCATGAA        2400

TCCTTCCATC AGGTAAATCT CACTAGCTTT TCCAGAAGAT CTTTTTGCCC TATCCATATG        2460

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TTGTGAATCC GTTTTTTGCC AGATACGACC TGAGAAGGCA ATGACCTTTC CTTGGTCATT        2580

TGTCAGGGGA AACATAATGC GATTGTGAAA GGTGTCTACA AATTGATTGG CATCCGAGAG        2640

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GAGATAGTTT CGTTCTGGAG GTGCTAAACC AATCCAAAAA TGTTTAAGCA CTTCATCTGT        2760

CAACCCCCGC TGATAAAGGT AATTTCTGGC CTCTTCGCCC ATAGTCGTTG TCATGAGAAT        2820

AGCATGGTAA AATTTGGCTG CATCTTCGTG CATATCATAA AGAGCTTGGT GAGGTGAGGC        2880

TGACTTCTGC TCACTATAAA GCGGTTTTTC AACCTCAATT CCAACACGCT GACCTAAGAT        2940

TTGGACTGCT TCTATAAAGG GAACCCCTTG GTACTCCTCG ATGAACTTAA AGACATCACC        3000

TGAGCGACCA CAACCGAAAC AGTGATAAAA CTGCTTGTCC TCTACAACAT TGAAAGATGG        3060

TGTTTTTTCA CCATGAAAAG GACAGAGCCC TAGATAGTTC CGTCCTGCCT TTTGTAAAGA        3120

AATCACATCT CCTATGACTT CCACAATGTT GGCATTGTTT TTGATTTCTT CAATGACTTG        3180
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1069

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TTTGTCAACC ATACACAATA CCTCCATGTT ATCATAGTTT ACTTTATATA GTATACTTTA        3240

TTTCAGAAAA AAAGTAAACC ATTTCACTCA TTTTCCCTAC TTTATTCAAA GAGTTGATAA        3300

TAATCAGAGA TTTTCATTTT TGCTTTTTCT TCTTGGTTTA AATCTTGGAT AATTCGTCCT        3360

TCTTTCATGA CAATCAAGCG ATTGCCGTAT TTGAGAGCAT CTTCCATATG ATGAGTAATC        3420

ATAAGGGCTG TTAGCTGATC TTTCTTAACA AATTCATCTG TCAATTCCAT CAAAGCAACA        3480

CTAGTCTTTG GATCCAGGGC AGCAGTATGC TCATCTAACA GGAGTAATTC AGGTCGCTTC        3540

AAGGTTGCCA TCAAGAGACT CAAAGCCTGT CTTTGTCCAC CTGATAAGAA CTCAATCGGT        3600

GTATTCAAGT GTTTCTCAAG ACCATTTCCT ACTTTTTCAA TGGTTGCCTG AAATTCATCC        3660

TTATAGCTAG TCAAGCGTCG TGGTAACAAT CCACGCTTTT CACCACGAAA CTTGGCGATT        3720

AAAAGATTTT CAGCGACCGT CATACGGGGA GCTGTCCCCA TCTTTGGATC TTGGAAGACA        3780

CGAGACAGGT ACTTGGCACG CTTCTCGGGT GAAAACTTAG TGAGATCTTC ACCTAAAATA        3840

CGGATAGTTC CACTAGTTAG TGATAAGGTC CCTGCTATAG TGTTAAAGAG AGTTGATTTT        3900

CCAGCACCAT TTCCGCCCAA AATCGTGATA AAGTCCCGTT CAAAAATTTC TAAGGAAACA        3960

TCATTTAAAA TAATCTTTTC TTCATCAAAG CCATTTTTAA CGATTTTGGT TGCATTTTTT        4020

AATTCTACAA TTGCTGTCAT TTGCTTAACT TGGCTCCTTT CAAGATTGTT TGCTTAAATG        4080

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TAAAGCCAAG TGCGATAACT GCCCACACTA AAAATTGATA AGCGATAGAA CCTACAACGA        4200

TAGTAACCAA ACGCTCTGCC AAGCTCAAAC TCTTGAAAAT AACTTCTCCA ATAATCAAAC        4260

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GAGCAATGAG GGCACCTGCA AGGGCAATCA CACCATTTGA TAAGACCAAG CCCATGAGCT        4380

CCATGCGTCC AGTATGAATC CCGAAACTTC TAGCCATATC AGGATTATCC CCTGTAGCAA        4440

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GAAGGCCTGC TGCCATTCCA GCCAAACAAC CTGCTCCTAC AGCAACAAGT GTCGCTAAAA        4740

ATGGGTTCAC GCCTTTGGTT ATCAAAGTGA CAGCAACAGC TCCCCCAAGA GGGAAGGAAC        4800

CTTCTGTCGT CATATCTGGA AAGTTTAAAA TCCTAAATGT CATAAAGATT CCCAGACCTA        4860

GAATAGCCCA GACAAATCCT TGAGAAATAA TGGAAACAAT CATATTTTAT TTAATCCTTT        4920
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1070

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CTATATTCAT CTTTTTAAAA AATGGGAAGA GTCTCCTCCT CCCTACCTTA TTTATTCGAT    4980

GACTTGTCCT GCTTCTTTGA GAACAGACTC AGGAATAGTA ATACCTAGTT CTTGTGCTAT    5040

TTTTTTATTG ATGACTGACT TACCAGTTGA AAAGACATTG ACTGGGGTAT CGGCTGGTTT    5100

TGCACCTTTC AAGACTTGCA CAATCATTTT ACCTGTTGCC ACACCAAGGT CATGTTGGTC    5160

AATTACAACT GATGCCAAAC CACCTACTTC TACCATAGCT GTCGCACTGG GATAAATTGG    5220

TTTCTTAGAA CTTTGATTGC TAGAGACAAC CGTTGGAAAT CCTGATGCAA TGGTGTTATC    5280

AATTGGAACC CAAATAGCAT CTACCTTGCT AGTCATAACA GTGACAGTTG AGGCAATTTC    5340

ATTTGTTGAA GGAACTGCAA ATGTTTCCAC TGTCAGACCT GCCTTTTCAG CATAAGCCTT    5400

AAATTC                                                                5406
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(2) INFORMATION FOR SEQ ID NO: 167:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9711 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 167:

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CAGCTTGCTC TTACTATTAT AGCAGATGTT ATAGCTGGAA TTATCTTGTA TTTCGTCTGC     60

AAATGGCTAG ATGGTAAGAA GTAGACCGAA TGACTAGCCT ATAAACACCC GTTAAATCGC    120

TAAGATACGT CAAAAAAGCC CTTAACTATG GCACTAGTTA GGGGCTTTGG TGTTCTAATG    180

AACCTTATAC ACTAACTACA TTCTAGCATA TAAGCCCAGA TATTTCAAGA GTTTTATTTA    240

TTGTTTAAAG TTCTGAAAGG TCTATAATGA AGTTAGCCAT CTAGTATCAA AAAACCGACT    300

AGCTCTTATG AACTAGTCGA TTTCTCATCA ATGCGCCAAC ATTTCTTGGG CGATTTCTTG    360

GCCAGATAGG TTATCTGGGT AGTAGGTTGG CCAGTTGTCC ATTTCTTCAA AGAGGGCTTC    420

TTGGCTTGTG CCTCCAAAGA AGATATGGAA ATGTTCTGCC TTAACTGGGG CAACATTGTG    480

GTCACTAAAC TGAACATACT TGAATTGTCC AGCGTCAGCA TCTGTGGCTT CAAAGAGGAA    540

ACGCACGCCA CGATTGCCTT TCTTGTAAGT CAAAATTTTC TTACCGACAT ACTTGTAAGT    600

GTATTTCTTG CTTTGTCCAC CTTGAACAAA TTCCATAGTA TTATCAGTAA TGTTAATCTT    660

AGTCACATCT GTATGATAGC CTTTTGTATA GTAAGCCTTG TACTCAGCCT GGGTCATCTT    720

ACCAGTCAAC TTAGCCTTGT AGTCAAAGAC TTGGTCAAAC GTGCCGTCTT CAAGGAAAGG    780

ATAAACTGAT TGCCAGTTAC CTGCATAGTC ACTCAAGGTG CGGTCCTTGA CAGCTGCATC    840

CTCGAAGTAA CCATTTTGGA CTGTCTTGGT ATCCTCTGCC TTTTCAGGTT CAATTGCTGG    900
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1071

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GCCTTCTTGG TCTGTTGTTT GTTTCAAAGC CTTGAGGTTT TTCTCCATCA CGGAAATGTA      960

GTTTTCTCCA GCCTTGGTGT CCTCTTCTGT CAGACTTTCT AAAGGATTGA GGACATCAGT     1020

TTTGACACCT GCTTCTTTTG AAAGTGTGTT AGCAAGGGCT TGTGAGGCAT TTCTTCAAAA     1080

TAGATATAGG CGATTTTATT TTTCTTGACA TACTCTGTCA ATTCTGCCAA GCGAGCAGCT     1140

GATGGCTCTG CATCTGGAGA AAGTCCTGAG ATTGCGACTT GTTTGAGTCC ATAGTCCAAG     1200

GCAAGATAGT TAAAGGCTGC GTGTTGAGTC ACAAAGCTCT TTTGTTTTGC TTGAGACAAA     1260

CCTTCTGCGT AAGCCTTATC CAAGGCTTGC AATTTTTCGA TATAGGCAGC TGCATTCTTC     1320

TCAAAGGTCT CTTTTTTATC AGGATAATCT GCTGACAAGC TGTCGCGGAT GTGCTCTACT     1380

AGTTTAATGG CACGAACTGG TGATAACCAA ACATGGGGGT CAAACTCATG GTGATGACCT     1440

TCTTCTCCAT GGTCATGGTC TCCCTCTTCT TCCTCGCCAC CTGGCAAGAG CAACATATCG     1500

CCTGTCGCCT TGATGGTTTT CACTTTTTTC TTATCCAAGG TATCTAGCAA TTTAGGTACC     1560

CATGTTTCCA TGTTTTCATT TTCATAAACG AAGGTATCTG CATCTTGGAT TTTGGCAACT     1620

GCCTTGGCAG ATGGTTCGTA TTCATGAGGT TCTGTCCCAG CACCGATTAG GAGTTCTACA     1680

TTAGCCGTAT CTCCTGCGAC TTGCTTGGTA AATTCATAGA CAGGGTAAAA GGTTGTCACG     1740

ATATTGAGTT TACCATCTGC CTGTTTTTGA TTGGAACAAG CCACTAAAAA CAAGGCACAT     1800

AGACTGGCTA GTAATAAGCT AATTTTTTTC ACGTTCGTCT CCTATTTGAT AAAACGTCTT     1860

ACTAAACTGA TTAGTATAAA GACAGTTACA AAAATAATGG TAATACTTGC ACTTGCAGGT     1920

GTTTCTGCAT AGTAGGAAAT GTAAAGTCCT GCTACCATTC CCAAAAAGCC AATCGCACTG     1980

GCAAGCAGCA TAACCGATTT AAAGTTTTTC CCCAGACGCA GGGCAATACT AGCTGGCAAG     2040

ACCATAATGG TCGATACCAG AAGAGCTCCT GCTGCAGGAA TCATAAGGGC AATAGCCACC     2100

CCTGTCACCA TGTTAAAAAG AATGGACATG GTACGAACTG GCAAGCCATC CACAAAGGCC     2160

GTATCTTCGT CAAAAGTTAA GATATACATA GGACGAAGAA AGAGAAAGGT CAAAATCAAA     2220

ACAACCGCCG CAATGACAAA GAGGGAAATG ACCTGTTCTT CACTGATAGT CACGATCGAA     2280

CCAAAGAGAT ATTGGTCCAA ACTCATTGAA CTCGAGCTTT TACCCTTGCT CATGACAATC     2340

AGAGAAACAG CCAGACCTGT TGACATGAGG ATAGCTGTCC CGATTTCCAT AAAGCTCTTG     2400

TAAACCGTAC GGAGATACTC CAGAAAGACC GCCGCAATCA AGACAATGGC AATAGTAGAA     2460

ACAGTTGGAG AAATCCCCAA AACCAGACCA AAGGCTACAC CTGAAAGTGA GACGTGGCTA     2520

AGGGTATCAC TCATCAAACT CTGACGACGC AAGATGAGGA AGGTTCCCAA TACCGGTGAG     2580

AAAAGACTCA TAGCAATAAC CGCCAAAAAG GCGCGTTGTA TAAAGTCGTA AGATAATAAA     2640
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                                      1072
CTAAGCATGG CCCACCTCCT GGCCATTCTC ATGAACATTG AAACAACGCC ATGGCGAGTC      2700

TTGGTTACGG ACTAGATGAA TATTGCGATC CGCATAATCC TTAACTTCTT CAGGGTCATG      2760

GGTAATCATC AAAACAGCCT TGCCATGATG ATGGGCGCTG TGGTGCATGA GTTCGTAAAA      2820

TTCATTTTTA CTTCCTGCAT CCATCCCCGT TGTCGGCTCG TCTAGGATAA ACACATCAGG      2880

GTCAGAAGCA AACATACGCG CAATTACCGC TCGCTGCTTT TGTCCCCCAG ATAGAGACCC      2940

CAAGCGTTTG TCTCGATGTT CCCACATGCC AACTGAGTCC AGACTAGCCT TGATATGCTC      3000

CTCATCATGA GCATTCAAAC GACGGAACCA GCCTTTTCTC GGATAGCGAC CCGACTTGAC      3060

AAATTCATAG ACCGTACTTG GAAAACCAGC ATTAAAACTG GCAATTTGTT GAGGAAGATA      3120

GGCTATTCTC AATTTCTTAC CTTGCGTATT TGTCTTTGAA ATAGCCACCT TTCCAATGCG      3180

TGGTTGCAGA ATTCCAAGAC TAGCCTTGAT GAGCGTCGTC TTAGCCGCTC CATTTTCCCC      3240

AGTCAAGGTA ACAAATTCCC CACTATCAAC ACAATAATTG ATATGTTCAA GAACAGGCTC      3300

CTTATCATAA TAGAAGGACA AATCCTCTAC CGTAATATAT CTCATTATTT GATTTCTCCT      3360

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ACTTGTTCAT AGGTTAAAAG TGTATGCTCA TGGTGATGGT GGTGCTCCTC AGCGATTGGA      3480

CGAGCCAAGT CAGTCAACTG ATAAAAAATC ACACGCGCAT CTTTAGAATC TTTAGATGTT      3540

TCCAACATCC CTTCCTTGAC CAAAGACTTA ATGGCCTTGG TAACTGCCGC CTGACTGACA      3600

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TGATTTTCCG CCTGCAAAAT CACCTCATTC AAAAAAGCAT TGATATCCTT TGCTAGCTGT      3780

CTCATATCTG ACTCCTTTCC TTTTAGACTT CTCTTTTTTA AGAGAAAAAT ACTATTCTTT      3840

GACATTTTGT TTACCAGTTA ATTATATCAC AAGCAAAAAA AGAGTCAAGA AAAAACGTGA      3900

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TGGTGTGGGA TTGGATAGGA AAGGATCAAC TGCCTTGTCA AAAGCCAACC AACCCAACCA      4080

ACCAAGGTGA ATGGTGTCCT TCATAAAGAA AGGCTCCCCG CCGTCCTTAG AAAAATCTGC      4140

TATATTGGTA AAACCTTGAC TTTCTAACTG GTAGCGAATC TTCTGCACCG TTTGTTGGTA      4200

CATATCCTCT CGTAGACCAG CATAGTTCAT CCATTTTTTA TTAACAGGTG GAATGATAAA      4260

AATCGGGTTT ACCTTAGATT TAGAAAACTG TGTTAAAACC AACTGCAAGT CATTATACTC      4320

TGGCGACTTG AGATAGGTAA AGCTTTTCTG AGAATCCTTT AATTTCTTCA AATCCTTCTT      4380

GATCTGCTCA TTATAGAAAT AATTTTCCAT TCCCATCTCA TTATTGGAAG TATTTTTTTC      4440
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1073

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AGCATCTGCT TTGACAACAT CTTCTATTGC CTGATAAGAA AACTGGTCTG GCAAGATTTT    4500

TAAATACTTA GCTACATGCT TATCGTAGTT AACATAGCCT CTAACCGAAA ACTGACCAAA    4560

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CGACAATTCT TCTTTACTTG CCAACTTCTG AACCAGGTCC TTCATAGCTA CGTTTGGGAA    4680

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AGCTCCTAGA TTATGATGCA TCTCAGTAGG ATAAAAGAAA ATGAGCAGAA AAACCAACAA    5160

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CCAAGACACC TGCATCAAAA AGATCTTCAT CCATCATGTC AGAAACATCT TCCATAAACA    5400

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AAGCCTAGTC CATGAAAGAG TCCATAGGCG ATATAGTACC AGGTCACACC ATGCCAAAAT    5700

CCCATAATCA GCATATTTAC AATGTAGGCC ATGCTTGAGG TTACATTACG ATTTTTAAAG    5760

ACTTTCTTTC TGGTTAACAC CATCACCATT CGCATAAAGA CAAAGTCACG GAACCAGAAG    5820

GACAGACTCA TATGCCAGCG ATTCCAAAAC TCCTTTAAAT CCCTTGATAA AAAGGGCTTG    5880

TTAAAGTTGA TAGGGCTACG GATTCCCATC AAGTTTGAGA TGGCCAAAGC AAACATAGAA    5940

TAACCTGCAA AGTCAAAGAA GAGTTCCAGA CCAAAAGTAT ACATAACTGC CAAGGCATAG    6000

AGATTAAAGA AGCCACCTGA CTGCAAGGCT AAATTCTTCA GAGGAGGTAG TAAGGTCTCT    6060

CCTAAAACAT GAGCTAGGAT AAACTTATAC AAAAAGCCCC ACATGATATA GCGGACAGAT    6120

TCATCCAGCA TATCCATCAA CTCATCTCGC TCAGGAATAG CCTGATAATT TTCATTAAAT    6180
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1074

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CGCTTAAAGC GATCGATTGG ACCACTCGAG AAAGTTGGCA TGAAGAGAAG GAAACGGAGG    6240

AATTCCCAGA GGGTAAAATC CTTAATCACT CCATCTCTCA GCTCGATGAC AATTCCAACC    6300

GAACGAAAGG TCAGGTAAGA AATTCCCAAG AACCCAAGCA AAGACTGCGT TCCATTGATA    6360

GCTGGTTGCA CCTTGACAAA GATAATCGGA AGTAGGGACA GAAAACTAAC TAAGTAGAAG    6420

ACCCACTTGC CATCCTTGCT TTTTCGATAA TGCTTGTAGA AAAGCAGGAG CAATATTTCC    6480

CAGCAAAGGT AAATACCCAA GGCAGCTAGT TGATTGGTCT TTCCACCCAC CAACATGGTG    6540

ACAATAAAGA AGAGACTTAC CAACACTTCA TACCAGGCAA AGCGTTTCTT GAAAAAGAGA    6600

CCTATAAAGA TGGGCAAGGT TGCAGCAATC ACATAAACAA AATACTGAGG ATTGCCTATA    6660

GGCTCTAAAT GAGGAAGCTG TTGAAAAAAC TCCATCATCT CTTATTCACC TCGTTAATCA    6720

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TCTGGAAGTC CATGCGTCCG CCGTAGAGAA GCAAGCCCTC ATCTGTCATG GTTCCCACAT    7080

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GATTGTTCAT ATAACCTTTT GAAACAGCTG GCCCAGAAAC AATGATTTCT CCCTGCTCAC    7200

CATTTGGCAG TTTATTTCCT TCCTCGTCAA TGATAAAGGT TGGAGAATCA GCCTTGGTAT    7260

AGCCGATTGG TAGGCGTTTG AGAGTCGCTA ACATCTCGTC TGTCACGGCA ACTGCTGACA    7320

GAGCTACTGT CGCTTCTGTT GGGCCGTAAG CATTGATGAT ACGGGCATTT GGGAAACGCT    7380

CGCGCAGTTT TTGAGCTGTT TTGACCGTCA ATTCTTCACC ATCAAAGTAG AAATGCGTGA    7440

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AAATCTGCAC TCCCTTAGGC TTACCAGTCG TACCAGAAGT AAAGATAATG TAGTAATTAT    7800

CATCTCCCTT GACTGGATGC GTGATTTCAT AGTTATTCCC TTGGGCAAAG GCTTCTTGAA    7860

CCTGAGCTAG ATTTATCATT GGTGTAGAAA CCTGCTCCAA GGGAAAGGCT GAAATGGCAA    7920

TAATCAAGCT TGGCTCTGCT ACTTCTAAAA TAGCTGAAAC TCGCTCCAAG GCCGAATGGC    7980
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1075

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TATCAATTGG AATGTAGGCA TGACCTGACT TAGTCAGCGC TACAAAGGTT GCCAACATTT        8040
CATATTCTTG GCCACCAAAA ACAACCACAG GAGACTTCTC AGGCAAGCCT AGTTGGTCAA        8100
TGACTGCAGC CAAACTATCC GAATCAGCCT TTAAATCGCC ATAAGTGTGT TCCTGCCCCA        8160
AAACATTATA GACAGGATAG CTAGGCTGTG TCTGAGCAAA ATGCTCAATG GTTTCAATCA        8220
TATCTGCTAT TGGTTTATTT GACACAATAG GGATTCTCCT TCAAGTTAAA ATTCATTATA        8280
GATAAAGCTT CCTTGACCCT GACCAAGATA GCTAAAGAAG TAAAGCAGCC CTAGAAAGAT        8340
AAGAAAATAC AAGGCTGTCC GACCAAGAAA GAGGTACAAT TCTTTTCTCT GTTTCATCAA        8400
GAAAAACCAT TCATTTCTGT AATTTTTCGC TAAAATAAGA GTGATTCTTA CTAGCTTATT        8460
TTTCTACCAT TGTACCACTT TATATAGTAT CTTTTCAATT GTTTACCGTA TGTTTCCAAT        8520
AGATTTCAGC TTATTTTAAG GATTATACAG TTTTTCTATG TATATTTTCA AATAGAGTGA        8580
TCCTGCTTCA AAACTCCATT TCAGGAGACA ATGAAGTAAA TCTTCCCATA ATAAAACACA        8640
CAATATCAAG TTTTTTCAAC ACCTGATACT ATGCGCTTTT CTGATTTTTA AAGACTTTTT        8700
AACCACTCTC TCATTTAAAA TAATCTCGTC TGATATAAAT TAAAATAGCT TCTATCATCA        8760
GACAAATGGC TGATAGCCAA AAACTGATGC TAATACCAAA ACTCTCAGTA ATATAGCTCA        8820
TTAGCAAAAC AAATACTGAA AATGCTAATG TAGAAATCAC TTCAAGAACG GAATAGACAT        8880
TAACTAAATG ATTTTCCTCT ACTGTTTCCT GAAGAAATAC ACTTTCAGGA ACTTCTTTTA        8940
GTTGCGATAA CATACCAACT AAAGCTGAAA ATAATAAAAA CATCTGTGCG TTTGGAAAAT        9000
ATAGAATAGT CAGTGTCACT ATTTCCATAG CTACAAGAGG AAAAAGAATA CTTTCCCCCC        9060
AAATCATTCA TACCTCTCTC AACTAGATGT AACTTACAAA ACCCCTGACC TCATGAGCCA        9120
CTTTCTTCCT CCTCATGAGG TCAGTTTTAC TTTCTGCTGT TCCAGTATCG TTTTTCCTCG        9180
CTAGATTTCC TCAAAAGGGC AGACTCCTCC CTTGGTGCGT CACACGATTT TTTCATCTCG        9240
ACTGTTCTTT AATGCATCAT TAACGACGCT TTTCTTCTAG GTGGTTCATA AGGAACAGGA        9300
AGATTCAGGT TGACTTTTCT AATCCTAGAA TAAAGTGCTG AAAACAATTC GGAATAGGCA        9360
TAGAGACTAG ACAATTGAG GAGCTGCTTG CGTCCTGTTC GAACACATTT TCCCACCACG         9420
TGAAGAAAAA GATGGCGGAA GCGTTTGATT GTTAAAGTTT GGAAGTCACC TCCAGCTAGA        9480
TGTTTGAGAA AAAGATAGAG ATTGTAGGCG ATACAGCTCA TCATCATACG AACTTCGTTT        9540
TTGATTAAGG TTGAACTATC CGTTTTATCG CCAAAAAATC CCTCCTTCAT CTCCTTGATG        9600
AAATTCTCGG CTTGACCACG TCCACGATAA AGCTGAAACT GGTCTTGGCT gTTCCACTCG        9660
TCATATTTGT AACGAGAGAA ATAACATCGT AGAACAAGTA TCCTTCTTTT C               9711
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1076

(2) INFORMATION FOR SEQ ID NO: 168:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3025 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 168:

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CCCCTTTGTC AAAACTGTAA AATTAACGAC TCAACAATTC ATCTTTACAC CAATCTCAAT          60

GGAAAACAAA AACAAATTGA CCTCTGTCAA AACTGCTATA AGATTATCAA AACAGATCCT         120

AACAATAGCC TCTTCAAAGG TATGACGGAT CTGAACAATC GTGACTTCGA TCCCTTTGGT         180

GATTTCTTCA ATGATCTAAA CAATTTCAGA CCTTCTAGCA ATACTCCTCC TATTCCCCCA         240

ACCCAATCAG GTGGAGGTTA CGGTGGAAAC GGCGGTTATG GTTCCCAAAA TCGTGGATCT         300

GCTCAAACTC CGCCACCTAG CCAAGAAAAA GGCCTGCTGG AAGAATTTGG TATTAATGTA         360

ACTGAAATTG CCCGTCGTGG AGACATTGAC CCCGTTATTG GGCGCGACGA TGAGATTATC         420

CGTGTCATCG AGATTCTCAA TCGTAGAACC AAGAATAATC CTGTCCTTAT CGGTGAACCT         480

GGTGTCGGAA AAACGGCCGT TGTCGAAGGT CTAGCTCAGA AAATTGTCGA TGGCGATGTG         540

CCACATAAAC TCCAAGGTAA ACAAGTCATC CGTCTGGATG TGGTTAGCTT AGTTCAAGGA         600

ACGGGGATTC GAGGACAATT TGAAGAACGC ATGCAAAAAC TCATGGAAGA AATTCGCAAA         660

CGTGAAGACA TCATCCTCTT TATCGATGAA ATCCATGAAA TTGTTGGTGC TGGTTCTGCG         720

AGTGATGGTA ATATGGACGC AGGAAATATC CTCAAGCCAG CCCTTGCTCG TGGAGAACTG         780

CAACTAGTCG GTGCTACTAC CCTCAATGAA TACCGTATCA TTGAAAAGGA TGCTGCCCTC         840

GAGCGTCGTA TGCAGCCTGT TAAAGTCGAT GAACCAACGG TGGACGAAAC AATCACTATT         900

CTCAAAGGGA TTCAAAAGAA ATACGAAGAT TACCACCACG TTCAATATAC AGATGCTGCG         960

ATTGAAGCAG CTGCAACTCT TTCCAATCGC TACATCCAAG ATCGCTTCTT GCCTGACAAG        1020

GCCATTGACC TCCTAGATGA AGCTGGTTCT AAGATGAACT TGACCTTGAA TTTTGTGGAT        1080

CCTAAAGTAA TTGATCAGCG CTTGATTGAG GCTGAAAATC TCAAGTCTCA AGCTACACGA        1140

GAAGAAGATT TTGAGAAGGC GGCCTACTTC CGCGACCAGA TTGCCAAGTA TAAGGAAATG        1200

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ATTATCGAGC AGAAAACCAA TATCCCTGTT GGTGATTTGA AAGAGAAAGA ACAATCTCAA        1320

CTCATCCATC TAGCCGAAGA TCTCAAGTCT CATGTTATTG GTCAAGATGA TGCAGTCGAT        1380

AAGATTGCCA AGGCTATTCG CCGTAATCGT GTCGGACTTG GTACCCCTAA CCGCCCAATC        1440
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1077

GGAAGCTTCC TCTTCGTTGG GCCAACTGGT GTCGGTAAGA CAGAACTTTC CAAACAACTG   1500

GCTATCGAAC TTTTTGGTTC TGCTGATAGT ATGATTCGCT TTGATATGAG TGAATACATG   1560

GAAAAACATA GTGTGGCTAA GTTGGTCGGC GCTCCTCCAG GTTATGTTGG CTATGATGAG   1620

GCTGGTCAAT TAACTGAAAA AGTTCGCCAC AATCCATATT CTCTCATCCT TCTCGATGAA   1680

GTGGAAAAAG CTCACCCAGA TGTTATGCAC ATGTTTCTTC AAGTCTTGGA CGATGGTCGT   1740

TTGACAGACG GGCAAGGACG CACCGTTAGC TTCAAGGATG CCATCATTAT CATGACCTCA   1800

AATGCAGGTA CAGGAAAGAC CGAAGCTAGC GTTGGATTTG GTGCTGCTAG AGAAGGACGT   1860

ACCAATTCTG TCCTCGGTGA ACTCGGTAAC TTCTTTAGCC CAGAGTTTAT GAACCGTTTT   1920

GATGGCATTA TCGAATTTAA GGCTCTCAGC AAGGATAACC TCCTTCAGAT TGTCGAGCTC   1980

ATGCTAGCAG ATGTTAACAA GCGCCTCTCT AGCAACAACA TTCGTTTGGA TGTAACTGAT   2040

AAGGTCAAGG AAAAGTTGGT TGACCTAGGT TATGATCCAA AAATGGGAGC ACGCCCAcTT   2100

CGTCGGACTA TTCAAGACTA TATTGAGGAC ACAATCACTG ACTACTACCT TGAAAATCCA   2160

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AAAAAAGCTG AAGTTAAAAG TTCTGAAAAA GAAAAATAAA TCCTATAAAA AAGGAGTAGA   2280

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CTTTGTCCAT TATGATATAT AGTAGACTGA ATCTGAAATA GTACGAAACA ATTGCTAAAA   2400

CATTTATAGA AATTAATTTT ACTTTCCCAA TCGATTTGTT CTCATCTTAT TTCAATCTGC   2460

TATAGTCAAT TGAAACAAGA ACAAGACAAA AGAGCCTCAT AAAAGGTATT GCAACTTGGT   2520

AATACCTTTT TGAGGTGCTT TTTGATATGA GCCCATGTTT TCTCAATAGG ATTGTACTCA   2580

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TTACCCATTC TATGGAATCT TGCATTATCC ATAATAATAA CCGATGGTGT GGTTAATGTT   2700

GGTAAGAGAA ACTTCTGAAA CCAAGCTTCA AAAAAGTCGC TCGTCATCGT CTCTTCGTAA   2760

GTCATTGGAG CGATTAACTC ACCATTCATT TGTTAGACCT GCAACCAAAG AAATTCTCTG   2820

ATATCTTCTT CCAGATACTT TGCCTCTTCT TAACTGACCT TTTAATGAGC GACCATATTC   2880

TCGATAAAAA TAAGTATCGA ATCCTGTTTC GTCAATCTAA ACAGGTGCTA GGTGCTTTAA   2940

ACTATTAAAA TTCTTAAGAA ATAAGGCTAC TTTTTCTGGG TCTTGTTCAT AGTAGGTGTA   3000

GTTCTTTTTT TTTTCGAGTG TAGCC   3025

(2) INFORMATION FOR SEQ ID NO: 169:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 4104 base pairs

                                           1078
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 169:

TTTAAGGTTT TAAAAAAAGT TTTCGAAAGG TTTCTTCTTT ATTTTTTAAG GGAGAGATAA   60

CGTTGATATC TAAATCGTGG TCAAAGCCGG CAATTTTTCC TTTAGATGTG TATTGGTGAA   120

TATCATAATC TAAATCAGTT TTAGGACTGC TCTCCAAAAA TCCTGAGTCT GAGCCGTAGA   180

CGGAATCCAA ACAGAGGTAA ACTTGCCTGT ATCAATACTG TGTTCTTCCA TGAAGTAGAC   240

ACCAACGTAG ATGCCGATGT TTTTAGCACC CAGTGATGCT AGTTTTGCTC GAAAGTTTTC   300

GACACCTTCG TTCATATTAG ACATGGTTTT GTCTTCCACG TCAAGCCAAT AGTAACTAGG   360

GCTGTAAGGA GAGGCAGCAT TGTAGAAAAC TTCGGCAGCC TTTTCCATTT CTTGGACACT   420

TTTTCCAGCT ACATAAGCGT AGACAGCAAC TGGGACATTC CGCTTTTGAA GTTCAGTGAT   480

ATGACTCTTA TAGGCCTTGT CTATTCCATT GATAAATGAA GCATCATTTT CTTTTGTCGT   540

TTGAGCACCA CTGTGAACAC GAACAATAGC ACCTGAAATA TTTTGTGAGA GGGCATCGTA   600

GTTGATTTCC TCAGGACGCT GCCAGCCAGA GAGGTCAATA ATCGGTTTGT CTAAGTGTTT   660

CAAAGCCTGT GCTTCAATCT GTGCTATATT GGATTTTGTT TTAAACGATT GGCTGTCATT   720

AAGTGGGCGA TTGATGATTA AAATGAACAT CATAATCCCA AAAAAACTAA ATAAAATAAG   780

TGGATGAATT TGTTTTCTCA TATCTTATAA TTCTACCCTA AAAATCAAAA AAAATCAAAA   840

AAATGGGTTA AGGAAGAGAC TTTAGAGCAT TTTTTCATTC AAGAGTGCGG AATGATTTGA   900

AATATGGTAT AATAAAAGGG AATTTCTACA GAAAAGAGAA GATTATGTCA AATTTTGCCA   960

TTATTTTAGC AGCGGGTAAA GGGACTCGCA TGAAATCTGA TTTGCCAAAA GTTTTGCACA   1020

AGGTTGCGGG TATTTCTATG TTGGAACATG TTTTCCGTAG TGTGGGAGCT ATCCAACCTG   1080

AAAAGACAGT AACAGTTGTA GGACACAAGG CAGAATTGGT TGAGGAGGTC TTGGCTGGAC   1140

AGACAGAATT TGTGACTCAA TCTGAACAGT TGGGAACTGG TCATGCAGTT ATGATGACAG   1200

AGCCTATCTT AGAAGGTTTG TCAGGACACA CCTTGGTCAT TGCAGGAGAT ACTCCTTTAA   1260

TCACTGGTGA AAGCTTGAAA AACTTGATTG ATTTCCATAT CAATCATAAA AATGTGGCCA   1320

CTATCTTGAC TGCTGAAACG GATAATCCTT TTGGTTATGG ACGAATTGTT CGTAATGACA   1380

ATGCTGAGGT TCTTCGTATT GTTGAGCAGA AGGATGCTAC AGATTTTGAA AAGCAAATCA   1440

AGGAAATCAA CACTGGAACA TACGTCTTTG ACAACGAGCG TTTGTTTGAG GCTTTGAAAA   1500

ATATCAATAC CAATAACGCT CAAGGCGAAT ACTATATTAC AGACGTCATT GGTATTTTCC   1560

1079

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GTGAAACTGG TGAAAAAGTT GGCGCTTATA CTTTGAAAGA TTTTGATGAA AGTCTTGGGG    1620

TAAATGACCG TGTGGCGCTT GCGACAGCTG AGTCAGTTAT GCGTCGTCGC ATCAATCATA    1680

AACACATGGT CAACGGTGTT AGCTTTGTCA ATCCAGAAGC AACTTATATC GATATTGATG    1740

TTGAGATTGC TTCGGAAGTT CAAATCGAAG CCAATGTTAC CTTGAAAGGG CAAACGAAAA    1800

TTGGTGCTGA GACTGTTTTG ACAAACGGTA CTTATGTAGT GGACAGCACT ATCGGAGCAG    1860

GAGCGGTCAT TACCAATTCT ATGATTGAGG AAAGTAGTGT TGCAGACGGT GTGATAGTCG    1920

GTCCTTATGC TCACATTCGT CCAAATTCAA GTCTGGGTGC CCAAGTTCAT ATTGGTAACT    1980

TTGTTGAGGT GAAAGGATCT TCAATCGGTG AGAATACCAA GGCTGGTCAT TTGACTTATA    2040

TCGGAAACTG TGAAGTGGGA AGCAACGTTA ATTTCGGTGC TGGAACTATT ACAGTCAACT    2100

ATGACGGCAA AAACAAATAC AAGACAGTCA TTGGAAACAA TGTCTTTGTT GGTTCAAATT    2160

CAACCATTAT TGCACCAGTA GAACTTGGTG ACAATTCCCT CGTTGGTGCT GGTTCAACTA    2220

TTACTAAAGA CGTGCCAGCA GATGCTATTG CTATTGGTCG CGGTCGTCAG ATCAATAAAG    2280

ACGAATATGC AACACGTCTT CCTCATCATC CTAAGAACCA GTAGGAGCCT ATCATGGAGT    2340

TTGAAGAAAA AACGCTTAGC CGAAAAGAAA TCTATCAAGG ACCAATATTT AAACTGGTCC    2400

AAGATCAGGT TGAATTACCA GAAGGCAAGG GAACTGCCCA ACGGGATTTG ATTTTCCACA    2460

ATGGGGCTGT CTGTGTTTTA GCAGTAACGG ATGAACAAAA ACTTATCTTG GTCAAGCAGT    2520

ACCGCAAAGC TATCGAGGCT GTCTCTTACG AAATTCCAGC CGGAAAATTG GAAGTAGGAG    2580

AAAACACAGC CCCTGTGGCA GCTGCCCTTC GTGAATTAGA GGAAGAAACA GCCTATACAG    2640

GGAAATTAGA ACTCTTGTAC GATTTTTATT CAGCTATTGG CTTTTGTAAT GAGAAGTTAA    2700

AACTATATTT AGCAAGCGAT TTGACAAAAG TGGAAAATCC GCGTCCGCAG GATGAGGATG    2760

AAACCTTGGA AGTCCTTGAA GTGAGCTTAG AAGAAGCGAA AGAATTAATC CAATCAGGTC    2820

ATATCTGTGA TGCCAAGACA ATTATGGCTG TTCAGTATTG GGAGTTGCAG AAAAAATAGA    2880

GGAGGTCAGT ATGGGTAAAT CTTTATTAAC GGATGAAATG ATTGAAAGAG CTAATAGAGG    2940

CGAAAAAATT TCAGGTCCTC CTTTGCTAGA TGATAATGAG GAAACTAAGA TTTTACCAAC    3000

CTCTTCTTCC CGTTTTGGTT ATGCCAATCC TAAGGATCAT GGTTTTAGCC AGGAAACCTT    3060

GAAGATTCAG GTCGAACCAT CTATTCATAA AAGCCGTCGT ATTGAAAATA CCAAGAGAAA    3120

TGTCTTCAAT TCTAAGTTGA ATAAAAATCTT ATTTGCGGTC ATCTTTCTCT TGATTTTGCT    3180

TGTTTTAGCA ATGAAACTTT TGTAATAGAA AAGGAATTGA AATGAAAATA GGAATTATTG    3240

CTGCTATGCC AGAAGAACTG GCTTATCTGG TCCAGCATTT AGATAATGCC CAGGAGCAAG    3300
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1080
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TTGTTTTTGG GAATACCTAT CATACAGGAA CCATTGCTTC TCATGAAGTC GTTCTTGTAG      3360

AAAGTGGAAT TGGTAAGGTC ATGTCTGCTA TGAGTGTGGC GATTTTGGCT GATCATTTCC      3420

AGGTGGATGC CCTTATTAAT ACGGGTTCAG CTGGGGCAGT AGCAGAAGGT ATCGCTGTTG      3480

GGGATGTCGT GATTGCTGAC AAATTAGCCT ATCATGACGT GGATGTCACA GCTTTTGGCT      3540

ATGCTTATGG ACAAATGGCG CAACAACCGC TTTATTTCGA ATCAGACAAA ACCTTTGTTG      3600

CTCAAATCCA AAAGAGTTTA TCTCAATTGG ACCAAAACTG GCATCTTGGT TTGATTGCTA      3660

CAGGAGATAG TTTTGTTGCA GGAAATGACA AGATAGAAGC GATTAAGTCC CATTTCCCAG      3720

AAGTTTTAGC CGTGGAGATG GAGGGGGCAG CTATTGCTCA AGCAGCGCAT GCCCTCAATC      3780

TCCCAGTCTT AGTCATCCGA GCTATGAGTG ACAATGCCAA CCATGAAGCA AACATCTTTT      3840

TTGATGAGTT TATTATCGAA GCTGGACGTC GCTCTGCCCA AGTCTTGTTG ACCTTTTTGA      3900

AGGCTTTAGA TTAAGCGGAA ATTTGACAGT TTTTCTAGCT TATGATAAGA TTTAAGTAAA      3960

GAAAAGCTAG AAAACGTTTC AGAGGATATT ATGAGTATTG AAATGACCGT CAGTGAGATT      4020

GCAGAGGTCT TAGGATTATC TCGCCAAGCA ATCAATAACC GTGTCAAAGA ATTACCAGAA      4080

GAAGACACAG ATAAAAATGA CAAG                                             4104
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(2) INFORMATION FOR SEQ ID NO: 170:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8876 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 170:

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CACGGATAGG CTCGGCTTTC ATCAGTCCTC AGGCTGATTT ACTAATAGCA ACTTTCCTCG        60

ACAAAGTCCA CAGCGATACG TnTGGGTATC AATCCTACGC TTACGCTGAT ACCTTTGCTG       120

GCAGGATTGG CAACGATAGA GCTTGATTGG CTTGGAGTTA CTATTGGGCA AGGATGGTAC       180

AAACCGTAAT CCATCCACTG CTTTCAACAG TTCCTTAAAA TCCCGATCCT TGTGTTGATA       240

GCCTTTCCCT TGAAAATAGA GGTGATAATG ACAGAGTTCA TGTCGGACAA TTTTCCTAAA       300

AACGTCCAAC CCCAGTTCCT GATAAACCTT GGGATTAAAA TCCAAATGCC CATCTTTGGG       360

GAAAAATCGC CCACCTGTCG AACGTAGACG CCTATTCCAC TGGACATGAT GGATAAAAGG       420

TCTGCCGAAG TCTTCTAGTG AAACCTGCTT GACGTAATCA GTCAGTTTCA TTTGGAGCTA       480

GGAGAGACAC ATTAACTTTT TCACGTTCAG TATCAATTTT CTTAACCCAA ACGCTCACCA       540

AATCTCCAAC TGCCACCACT TGACTAGGGT GTTTGATAAA CTTGCGACTC ATATGGGAAA       600
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1081

TATGGATGAG	ACCGTCCTCA	TGAATTCCGA	TATCAACAAA	AGCACCGAAA	TCAACAACGT	660
TACGCACCAC	TCCTTCTAGC	TTTTGTCCAA	CCACTAAGTC	CTTGATATCT	AGGACATCTT	720
GGCGAaCACA	GGTGCGTCAA	AGGAATCACG	GAAATCTCGA	CCTGGTTTGA	GAAGATCTGC	780
AATGATATCT	TTAAGAGTTT	CTGGACCAAG	GTCTAACTCT	TGCGCCATTT	CCTTGACTGA	840
AAGCGACTTG	AGTTTGCTTT	GGGCTTCTTC	GTTTAGGTCT	TTAATATCTA	AACGTTTGAA	900
GAGTTCCTTA	ACTGCAGTGT	AATTCTCTGG	GTGAACTCCT	GTATTATCAA	GGATATTGCT	960
ACTTTCAGGG	ATACGAAGGA	AACCAGCAGC	CTGCTCAAAG	GCCTTGGCTC	CCAGACGAGG	1020
AACTTTCTTG	ATTTGGGCGC	GTGAAGTGAT	TTTTCCTTCT	TCCTCGCGGT	ATTTGACAAT	1080
ATTTTCAGAG	ATAGTTTTGT	TGAGTCCAGC	TACGTGTGAA	AGAAGAGCTG	GGCTAGCTGT	1140
ATTGACATTG	ACACCAACTT	GGTTAACCAC	TGTATCGACA	ACAAAGTCCA	GACTCTCAGA	1200
TAGTTTCTTC	TGACTGACAT	CGTGTTGGTA	TTGACCGACA	CCAATTGACT	TAGGATCGAT	1260
TTTGACCAAT	TCCGCAAGAG	GATCTTGCAA	ACGACGGGCG	ATAGAAATGG	CAGAGCGTTT	1320
TTCAACGGTC	AAGTCTGGAA	ACTCCTGACG	AGCAAGTTCG	CTGGCAGAAT	AGACAGAAGC	1380
ACCACTTTCA	TTAACGATAA	CATAGCTGAC	TTCAGGGAAA	TCTTTCAGAA	CTTCCGCTAC	1440
AAAAGCTTCA	CTTTCACGAC	TGGCCGTTCC	ATTTCCAATG	GCAATAATCT	CTACACCGTA	1500
TTGACCAATT	AAATCTGCTA	AATCTTTCTT	GGCTTCTTCG	ATTTGACGAG	CTGATGCTGG	1560
TTTAACAGGA	TAAATAACCT	GAGTTGTCAG	CATTTTTCCT	GTTGCATCCA	CGACAGCTAG	1620
CTTGGCACCT	GTACGAAAGG	CTGGGTCAAA	TCCAAGAACC	ACGCGCCCTT	TCAGTGGAGC	1680
AACCAAGAGG	AGATTGCGCA	GATTGTCAGA	AAAAAGTTGG	ATAGCTCCTT	CTTCAGCTTT	1740
CTCAGTTAAT	TCTGTCCGAA	TACGACGCTC	GATAGCAGGC	AAGACCTTTT	TCTTAACGGA	1800
TTGCTGAACA	ACTTCATCAA	TATAAGCATT	TTTCACCTTG	AAACGAGTAG	CAAAGAAGGC	1860
AAGAATACGG	TCCGTCGCAT	GTTCAAAACC	GATCTTCAAG	ACACCAAGTT	TCTCCCCACG	1920
ATTGAGAGCC	AAGGTACGAT	AGCCTTGCAT	AGTTCCAACT	GTCTCTGAAA	AATCATAATA	1980
AATCTGAAAA	ACCTGCTTTT	CATCAAGACT	TTCATCCTTG	GCTTGAGAAG	TAAGTTTAGA	2040
GTGTCTCAGC	ACTTCCTGAT	AAGTCATAGA	ACGCAAGGTC	ACATCTTCCG	ATAAGGCTTC	2100
GACCAAAATA	TCAACTGCAC	CGGTCAAGGC	TTCCTTGCCA	GTCGCAAATC	CTTCACAGAC	2160
GAACTTTTCA	GCTTCTTTCT	CTAAGTCAAC	TATATTCTGC	AAAATCAAGC	GAGCAAGAGG	2220
AAAGAGTCCA	GCTTCACGGG	CAATGGTTGC	CTTGGTACGA	CGCTTTTCCT	TATAAGGAAG	2280
ATAGAGTTCT	TCAACGTCTG	CTAATTTTTC	GGCAACTAAG	ATAGCTTCTT	CCAATTCCTT	2340

1082

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GGTCAACTTA CCTTGTTCTT GAATCTTAGC TAAGACAGCT TCCTTACGGT CATTGAGATT    2400

TGTCAGACTT TTATCCAAAT CAATAATAGC CTTAATCGCC ACCTCATCCA GACTACCAGT    2460

CATGTCCTTG CGATAACGCG CGATAAAGGG AATAGTCGCC CCTTCAGCTG TCAAACTTAG    2520

AACGGTATCA ATTTGCTTTA ACGTCACTCC CAAATCCTGA GAGATTTTTT CATATTTTTT    2580

ATCCATAAAT CTATTATACC ACAAGCTAAA CGTTTCAAAT TAACTCGTAG AACATTTAAA    2640

AAATATGTAG GAAATAGATT TATATGCTAC AGCGCAATAA CTTGCACTTA AAGAGCATTG    2700

CCACCTTTTT TTAACCAAGC CATGATATCA AAAGTATTTA ATGGATCAGA CATAATAGCC    2760

AGTTCTGGAA GATGTTCCTG ACCTGGAATA ACACATTGAC TTTTCAAATT TTTATATGGA    2820

CGATTGACTA AAATTAATTT ATTAGAATAA GGAAGATTAT CCATCTTATT TAAAATTTCT    2880

TCACTAGCTG AATCTTTATT ATCAAATTTA AAATAAAGAT TATTCCAATT TATGCGTTTT    2940

TTTCTTTTTT CCCACTTAGT TCGTGCTTCT TCAATACTAG AATAATGTAG AAAATGAATA    3000

TCTATATCTC CTAAGTGCCC CAAAGGATAA ACTTCATGAG TCCAGCTCGG TGAAATAAGT    3060

TCCTCTTCGA AAACAAGTTC TTGTTCCATA TAATAACGAA AATGCTTTGT AAGTTTATAA    3120

TAATCATCAG GAAGAATAAA TAAACCAACA AAAGGTGTTC TATATTGAAA ACCAAGCTGT    3180

TTATAAATTA ATCCTCCAAC ACAATTATTA CTTATAATCG TAAAATCTAA TCTATCAAGC    3240

TCAAGAAAAG GGAAAATTCC TTTCTCTGCA GCTATTAACT TATGATAAAC AATATCAGAA    3300

TCTAAATATT CACCGTCATT TTTTAACCAA GCACTAAAAT TTGCCAATTC TTGAATATAT    3360

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TCATAATTTT CTAATATGAT TTTGTAGGAG TCTTTTAGAG GTTTAGCATC TATAACAGGT    3480

TTATAGATAT ATGTCGGGAA ATTAATATAG GTTGCAGTTT TAGAGTGAAT ATAAAGTCTC    3540

CAAATAAGGT TGTTTATATC AAATTGATTT ATTTTTCGTA AAAGCTTACT ATTGAATAAT    3600

TTTCCAAATA ATGAGCGATA TTGTTTTCTA ATTCGATGAT CTGTATCATC CATCTTTTGT    3660

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TAAAATACTC CATCAACCAA ATCAGCAAAA TGACCAAGAA CAACATCAGA ATCGGATAAT    3780

TTTATCGCAT GATACATCTT TTCAAATGTC CAATCAAATA ATGAATCATT TGAAGATAGA    3840

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ATCTTAATAT TAAATGATAG ATTCATCTGT TGGCTAATGG AAGCTATCTC CTCTGTAGAT    3960

TGATTTACAA TAATAACTTC TATATCTTTT AATGTTTGTC TCTCCACTAT TGACAAAGAC    4020

TCTAATAAAC TATTTTTATC TCCTTGATGT AACAAAACAA CACTAATTGA GTAAGTCAGT    4080

TTGACTACCT CCCATAATTT TCTGATAATG ATTTTCTTTT TATTTAATTA TAGCACAATT    4140
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1083

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ATGATATATA TCAGGTAATA TCAAGCTATA TTATCTCTTA GCTACTCAAT TTGAAATTTT    4200

AACTTTTCCC TTTTCCGCAA AATAATAGTA TAATAGAGGT AGAATCTAGA ATCGAGGTAC    4260

ACCTATGGCT GTCAAATTTA CAAAACGAGA CGACTTGGAC AAGATGTTTG AAGAGTTTGC    4320

TAAACTCCCT GATTTGAAAC AAGTTACTTT CCCTGATGAC AAAGAGAAAA AAGTCAAAGC    4380

AGAAAAGAAA AACTAGATGA CTGCTTTTCA ACAACTCCCA TCTAGTGTAC TTCAAACTGG    4440

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AATACTAGGA ATTTTTCTAG GATTTTTCTG GCAAGAACCG ATTCAGAAAG AAAATCGTCT    4860

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GCCTATATCT CCATGGTGCT TTCTTTTATC TTGGCTATCG TTCAATTGTA TATCTGGATG    5460

AAGCAAGTCA AAACCCACAG TCATCTGAAC AGCCGATTAG CCAAGATAAC GAGTATTTCT    5520

CTTCTGGCTA TTCCACTTGT CATCGGCTTA ACTTTCCCAA CTGTTAGCTT GGATTCTCAG    5580

ACTGTTTCTG CTAAAGGTTA TCATTTCCCC CTATCGGAAG GAACGGATCT AGCCATTCAG    5640

ACAAGCGAAG GGACGACAAG CCAATATTTG AAACCAGATA CCAGTTCTTA TTTTTCAAAA    5700

TCAGCCTATG AAAAGGAAAT GCGAACGGCG GCGGATAAAT ACTTATCCCA AGATAGTATT    5760

CAGATCACTA ATGAAAACTA TATGGAAGTC ATGGAGGCTA TCTACGACTA TCCAGATGAG    5820

TTTGAGGGCA AGACAATCCA GTTTACAGGC TTTGTCTATA ACGACCCCAG TCATGCCAAT    5880
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1084

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AGTCAATTTC TGTTCCGATT CGGCATTATC CACTGTATCG CAGATTCTGG TGTCTATGGA      5940

TTGCTGACCA AGGGCAATAC CCGGCAGTAT GAAAACAACA CTTGGATAAC AGCCAAAGGA      6000

AAACTGGTCA ATCACTACCA TAAAGAACTC AAACAAAACC TTCCAACCTT GGAAATCGAC      6060

AGCTTTACCA AAGTCGATAA ACCAGAAAAT CCCTATGTAT ATAGAGCTTT TTAAGAAAAT      6120

CAAGATAAAA ACGAACAAGT TCTCTTCTGA ATAACAGAAA AAGAGCCTGT TCGTTTTTTG      6180

TTATATGAAA ATTAGTGACT TGTAGATTTT CATCTTATAC CATTCCCAGC AATACAAGTA      6240

GCTCATAGAA AATAAGCGAG CCACTCATTC ATTAGACTAG CGATTTCTTT AGGTGCTTGA      6300

GTATAAAGCT CATGGCCAAA GTTTTCTAAA AAAATAGTAT CAAAATAGTC TGGCAATTCT      6360

TTTAGGGCTT CCTCTCTCCA TGTAGCTTCA TTAGGATAGC GAGGACTAAT AAACAAGGTA      6420

TCTCCCACTT CTCTCTTAAA AGCTTGTATT TTTCTCCGTA GcGGAGTATC GCTTCTATAT      6480

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GAACATCTAA GTCCGAAACA ATTTGAGATT TGATATAATT TTTAGTTTCC TCTAACTCTG      6660

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GAAAATCCTT GCTATGATAG GCATTGCTTC CCAAACCGCC AATAAAATAT TTTTTCATTC      6960

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GGATTCGCTT AATCAAGTCT TGTGGGACTA GCGCCAGAAT CTTCTCAGTA GTTTCTTTGT      7200

CACTAATATT AGACATTGTA AGCCTTTTCT TAATCATTTC CTGTTCTTTT TCTGTAAAAT      7260

CTTTTAATTC CATTCGATTA GTCCTCCTAT TTTCTCTAAG TTAAATTATG TACTAATACA      7320

GATGAAACTA CAAAGAATAA ACTTTAAGAA ATCTTCTCAC TGATAAGATT TTAGCATTAG      7380

ACTTCCTGCG AAACAAAATA TGGTATAGTA GTTCTATGAA TTATGAAGCA AGTAAACAAC      7440

TAACTGATGC ACGATTTAAA CGTCTTGTTG GTGTTCAGCG CACGACTTTT GAAGAGATAT      7500

TAGCTGTATT AAAAACAGCT TATCAACTTA AACACGCAAA AGGTGGACGA AAACCTAAAT      7560

TAAGCCTAGA AGACCTTCTT ATGGCCACTC TTCAATATGT GCGAGAATAC CGCACTTATG      7620

AAGAAATTGC GGCTGATTTT GGTATTCACG AAAGCAACTT AATCCGTCGG AGCCAATGGG      7680
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1085

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TTTAAGTAAC TCTTGTTCAA AGTGGTGTTA CGATTTCAAG AACTCCTCTC AGTTCTGAGG      7740

ACACGGTAAT GATTGATAGC CATTCCCATC AATATCGTAT CTTTGGACAT AGCCAATAAA      7800

TGTTTCATTT TTGCGTGGTT TCTGGCTATT AACGATTGAA ATAACCCACC AACTTATCAA      7860

AAATAGAAAT AAAAATCCTA AGATTACTGT CATATCATAA CACTATTAAA GTTTAACCCA      7920

CTTATCATTA TCCATGATAA AAGGCTTAGC CAGTCCCTCG CCTGTATAAT CCGCATACTT      7980

GGTGCCCAAA TACTTGTAGC AATCTTCCTT ACTAGCAAAT TTAATCGCTT GGTAGGGCTC      8040

TTCGAAAGTC AATTTCTCTA CAAATAAGAA ACCGTCATCA GCAGGTACTA AGACCCCAAC      8100

GTGGCCTACA AACAGATACT CGCCATCCAA ATTGTCGTGC AAGACTACAG ACAGCATTCG      8160

AGCTTTTTCA TTGAATTGAA ATTGTGAGAA GAATGCTTCC ATCTTTTCAG CGTGAACCTT      8220

GACATCTGTA GTTGACTCAG TTGGAACTCT CGAAAATAGA ATATCAAACT CTTCCTTATC      8280

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TGATAAGAGA GATTTGACCT CTTCTGTACT TACCTGGTTG TTTAGGTTGG TGTATGAAGC      8640

TTTCCATGGA ACTTTCGCTG AACTGCTTTG CCTTTGATTC GTCCCCTCAG AAGTAGCATG      8700

TTGTTGTTGA CAAGCAGCCA AGCCTAAAAA CAAGGCTGAA CAGATTCCTA ATGTGGCTAA      8760

TTTTCTTGAT TTCTTCATTT CTTTCTCCTA AATGTCTTGG ATTAAAGTTT CTTTAACTAT      8820

TGCTTTACAG ATATTGATTA CTTTCTCATT TAATGTGTTC ATCGTCTTTC CTCCGG        8876
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(2) INFORMATION FOR SEQ ID NO: 171:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 14736 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 171:

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CGCAAACTTT CGCGGTCGGA AGGTAGTTTT ATGACACGAT TTGAGATACG AGATGATTTC       60

TATCTCGATG GAAAATCATT TAAGATTTTA TCTGGTGCCA TTCATTATTT TAGGGTTCCT      120

CCAGAGGATT GGTATCATTC GCTCTATAAC TTGAAGGCTC TTGGTTTTAA TACGGTAGAG      180
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1086

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ACTTATGTTG CTTGGAATTT ACACGAGCCT TGTGAAGGTG AGTTTCATTT TGAAGGTGAT        240

CTGGATTTAG AGAAATTTCT CCAAATAGCG CAGGATTTGG GTCTCTACGC AATTGTGCGT        300

CCGTCTCCAT TTATCTGTGC GGAATGGGAA TTCGGTGGCT TACCAGCTTG GCTCTTGACC        360

AAGAACATGC GAATTCGCTC ATCCGACCCA GCATATATCG AGGCAGTTGG TCGCTACTAT        420

GATCAGTTAT TGCCAAGACT GGTGCCTCGT TTGTTGGACA ATGGTGGCAA TATTCTCATG        480

ATGCAGGTTG AAAATGAGTA TGGTTCTTAC GGAGAAGATA AGGCTTACCT GAGAGCGATT        540

CGACAGCTAA TGGAAGAGTG TGGCGTAACC TGTCCCCTCT TTACATCAGA TGGTCCATGG        600

CGAGCTACTC TGAAAGCTGG AACCTTAATT GAAGAGGACC TCTTTGTAAC AGGAAACTTT        660

GGTTCTAAGG CACCTTACAA CTTTTCGCAG ATGCAGGAAT TCTTTGATGA ACATGGTAAG        720

AAATGGCCAC TCATGTGTAT GGAGTTCTGG GATGGTTGGT TCAATCGCTG GAAAGAACCG        780

ATTATCACAC GGGATCCTAA GGAATTGGCA GATGCAGTTC GAGAGGTTTT GGAACAAGGC        840

TCTATCAATC TTTACATGTT CCACGGTGGT ACAAACTTTG GTTTCATGAA TGGTTGCTCA        900

GCTCGAGGAA CTTTGGACCT GCCACAAGTT ACGTCTTATG ATTACGATGC CCTTCTGGAT        960

GAAGAAGGAA ATCCAACTGC TAAATATCTT GCAGTCAAGA AGATGATGGC AACACATTTT       1020

TCAGAGTATC CGCAGTTGGA ACCACTCTAC AAAGAGAGTA TGGAGTTGGA TGCTATTCCA       1080

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CTCTATCCTC AAAAGATGGA GGAGCTGGGA CAAAGTTATG GCTACCTACT TTATCGAACA       1200

GAAACAAACT GGGATGCAGA AGAAGAAAGA CTTCGTATCA TTGATGGTCG AGATAGGGCC       1260

CAGCTGTATG TCGATGGTCA GTGGGTTAAA ACTCAATATC AGACAGAGAT TGGGGAAGAT       1320

ATTTTTTATC AAGGTAAAAA GAAAGGGCTA TCTAGGTTAG ATATCTTGAT AGAAAATATG       1380

GGGCGTGTCA ACTATGGGCA TAAGTTCTTA GCGGATACGC AACGTAAGGG AATTCGGACA       1440

GGGGTCTGTA AGGATCTGCA TTTCTTACTA AACTGGAAAC ACTATCCACT CCCACTAGAC       1500

AATCCTGAGA AAATTGATTT TTCAAAAGGA TGGACTCAAG GACAACCAGC CTTTTACGCT       1560

TATGACTTTA CAGTCGAAGA GCCAAAAGAT ACTTACCTAG ACTTGTCTGA GTTTGGTAAG       1620

GGGGTTGCCT TTGTCAATGG GCAGAATCTA GGACGTTTTT GGAACGTTGG CCCAACTCTC       1680

TCACTTTATA TCCCTCATAG CTATCTCAAG GAAGGTGCCA ACCGCATCAT TATCTTTGAA       1740

ACAGAAGGTC AATATAAAGA AGAGATTCAT TTAACTCGTA AACCTACACT AAAACATATA       1800

AAGGGGGAAA ACTTATGACA ATTGTAGGAT GCCGTATTGA TGGACGTTTG ATCCACGGAC       1860

AAGTAGCCAA TCTTTGGGCT GGAAAACTAA ATGTTTCACG CATTATGGTT GTAGACGACG       1920

AAGTTGTCAA CAACGATATT GAAAAGAGTG GTTTGAAACT TGCGACACCA CCAGGTGTGA       1980
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1087

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AATTGAGTAT TTTGCCAGTT GAGAAAGCTG CAGCCAATAT TCTTGGTGGC AAATACGATA    2040

GCCAACGTCT CTTTATCGTG GCTCGTAAAC CAGACCGCTT CCTTGGTTTG GTAGAAGCAG    2100

GTGTACCACT TGAAACCCTT AATGTTGGGA ATATGTCTCA AACACCAGAA ACTCGTTCTA    2160

TTACACGTTC TATCAACGTA GTAGACAAGG ATGTGGAAGA CTTCCACAAA CTGGCAGAAA    2220

AAGGTGTTAA ACTTACTGCT CAGATGGTTC CAAATGATCC AATTTCAGAC TTTTTGAGCT    2280

TATTAAAATA GGAAAAAAAT TTTTAGGAGG TCATTGTTAT GATACAATGG TGGCAAATTT    2340

TACTTCTCAC TTTGTACTCA GCTTATCAAA TCTGTGATGA GTTGACGATC GTTTCATCTG    2400

CAGGTTCCCC TGTATTTGCT GGTTTCATTA CTGGTTTAAT CATGGGAGAT GTGACTACTG    2460

GTTTACTTAT CGGTGGTAAC TTGCAACTGT TCGTTCTTGG GGTTGGTACC TTCGGTGGTG    2520

CTTCTCGTAT CGACGCAACT TCTGGTGCGG TTCTTGCGAC ACCTTCTCTG TTTCACAAGG    2580

AATTGATGCA CCGCTTGCCA TTACTACAAT CGCTGTACCA GTAGCAGCTC TCTTGACTTA    2640

CTTCGACGTT CTTGGTCGTA TGACTACTAC CTTCTTCGCT CACCGTGTGG ATGCTGCAAT    2700

CGAACGCTTT GACTATAAAG GTATTGAACG CAACTACTTG CTTGGTGCGA TTCCGTGGGC    2760

TCTATCTCGT GCCCTTCCAG TCTTCTTTGC CCTTGCTTTT GGTGGTGCCT TTGTACAATC    2820

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TATGCTTCCA GGTCTTGGAT TTGCAATCTT GCTTCGTTAC CTTCCAGTTA AACGTAACCT    2940

TCACTACCTT GCTATGGGAT TTGGTTTGAC AGCTATGTTG ACTGTTCTTT ACTCATATGT    3000

AACAGGTCTT GGTGGCGCTG TTGCTGGTAT CGTAGGTACT CTTCCTGCTG AAGTTGCTGA    3060

AAAAATTGGT TTCGTGAACA ACTTCAAAGG TTTGTCTATG ATTGGTATTT CTATCGTAGG    3120

TATTTTCCTT GCAGTGCTTC ACTTCAAAAA TAGCCAAAAA GTAGCTGTAG CAGCACCTTC    3180

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AACGTATGCA AGCTTCTGGT TACCTTTACA TGATCTTGCC TCAGTTGCGT AAAATGTATG    3360

GTGATGGAAC TCCTGAATTG AAAGAAATGA TGAAAGTTCA TACTCAATTC TTCAATACTT    3420

CACCATTCTT CCATACCATT ATCGCTGGTT TTGACCTTGC CATGGAAGAA AAAGATGGTG    3480

TAGGTTCAAA AGACGCCGTT AACGGTATCA AGACAGGTTT GATGGGACCA TTCGCTCCTC    3540

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TGGCTATCGC TGGCCAACCT TGGGGGATCT TCCTTTGGAT TGCAGTTGCA GTAGCGTATG    3660

ACATCTTCCG TTGGAAACAG TTGGAATTTG CTTACAAAGA AGGGGTTAAC CTTATCAACA    3720
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1088

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ACATGCAAAG TACCTTGACA GCTTTGATTG ACGCTGCATC TGTACTTGGT GTCTTCATGA    3780

TGGGTGCTCT TGTAGCAACA GTGATTAACT TTGAAATTTC TTACAAGTTG CCAATCGGTG    3840

AAAAGATGAT TGATTTCCAA GACATCTTGA ACCAAATCTT CCCACGTTTG CTTCCAGCAA    3900

TCTTTACTGC CTTTATCTTC TGGTTGCTTG GTAAGAAAGG TATGAACTCT ACTAAAGCTA    3960

TCGGTATTAT TATCGTACTT GCTTTGGCTC TTTCTGCCCT TGGTCACTTT GCACTTGGAA    4020

TGTAATTCCT TATGACTAAA TCATTAATTT TGGTGAGCCA TGGTCGCTTC TGTGAGGAGC    4080

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TTCCAGAAGA TGGCCCAGAA GAATTTACTG CTAAATTTGA AGCTGTTATT GAAGGATTGG    4200

ATGATTTCCT AGTCTTTGCG GATCTTCTCG GTGGGACACC TTGTAATGTG GTGAGTCGCT    4260

TGATCATGGA AGGTCGTGAT ATTGACCTTT ACGCAGGGAT GAATCTTCCA ATGGTGATTG    4320

AATTTATCAA TGCGAGCCTT ACAGGCGCAG ATGCGGACTA CAAGAGCCGT GCTGCAGAAA    4380

GCATTGTGAA AGTTAATGAC CTGTTAGCGG GCTTCGATGA TGACGAAGAT GAATAATACT    4440

CTTCGAAAAT CTCTTCAAAC TACGTCAACG TCGCCTTGCC GTAGgTATAT GTTACTGACT    4500

TCGTCAGTCT TATCCGGCAA CCTCAAAACG GTGTTTTGAG CTGACTTCGT CAGTCTTATC    4560

CGGCAACCTC AAAGCAGTGC TTTGAGCAGC CTGCGGCTAG TTTCCTACAG ATTTTAGTTG    4620

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CATGGGAATG TAGCTTACTC CCATTCCCAT ATTTAATAGA AAAAGAGGAA CTCAATGCTA    4740

CATTATACAA AAGAAGACTT GCTCGAATTG GGTGCAGAAA TCACTACGCG TGAAATCTAC    4800

CAACAGCCTG ATGTATGGAG AGAAGCTTTT GAATTTTATC AAGCAAAACG TGAAGAAATT    4860

GCAGCCTTCC TACAAGAAAT CGCTGATAAA CATGACTATA TTAAGGTTAT CTTGACAGGT    4920

GCTGGGACTT CTGCTTATGT GGGAGATACC TTGCTACCTT ATTTTAAGGA AGTCTATGAC    4980

GAACGCAAAT GGAATTTCAA TGCTATTGCG ACAACAGATA TCGTTGCCAA TCCAGCAACC    5040

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TCTATGATGT TGACAACTCT CTTGGTCTTT GATCCTACAG AATTTGCTGT TAAGTCTGAA    5340

CGTTTTGAAG TTGTATCTAG TCTTGCCCGT AAAGTTTTAG ACAAGGCAGA AGATGTCAAA    5400

GAGCTCGTTG ATTTAGACTT TAACCGTGTC ATCTATCTAG GCGCTGGTCC TTTCTTTGGA    5460

CTTGCTCATG AAGCTCAGCT CAAGATTTTG GAATTAACTG CTGGTCAAGT TGCGACCATG    5520
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TATGAAAGCC CAGTTGGCTT CCGTCACGGT CCAAAATCTC TTATCAACGA CAATACAGTT      5580

GTTTTGGTCT TTGGTACAAC GACAGACTAC ACTCGTAAGT ACGACTTGGA CTTGGTTCGT      5640

GAAGTTGCTG GTGACCAGAT TGCTCGTCGT GTTGTGCTTT TGAGTGATCA AGCTTTTGGT      5700

CTTGAAAATG TCAAAGAAGT GGCCCTTGGT TGTGGCGGTG TCTTGAATGA TATTTACCGT      5760

GTCTTCCCTT ACATCGTTTA TGCCCAACTC TTTGCTTTAT TGACTTCACT CAAGGTAGAA      5820

AATAAACCAG ATACACCGTC TCCTACAGGT ACAGTAAACC GTGTAGTACA AGGTGTCATA      5880

ATTCACGAAT ATCAAAAGTA AGACAGTGTT TATGAATTCT TGACAAGAGG ATTTGTAAAT      5940

TATCAGATAA ACCATAGATT GTCAGTACGC TTTCTATGGT TTGTTTGCTT GAGAGAAATA      6000

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CTTGGGATTT GATGACTTTG ATAGTTATGT AGGCAATAGT CCCAAGCATG GAGCAAGTGT      6240

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CTTGTTTGAA GTTGAAGAAG TAAGCGATCA TGGCTTGACT CTCTACACAG AGCGTACAGA      6420

TGGGACAGGA GGGTTCCCTG GAAATCTCAA GATTTGGATC AGTTATCACT TGGAAGAAAC      6480

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AGAAGCCAAC CGTGATGTGG TCAAACACGT CTACAATGGT ACCTTGTTGA AGGATATCTT      6720

TGCAGAAGAA GATGAGCAAA TCCAGCTGGC ATCAGGTTTG GATCATCCAT TTGCCCTTCC      6780

TGCAGGCCAT GACAATGCTG GATTCCTTTA TGACCAAAAT TCAGGTCGCT TCCTGCTTTT      6840

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CATAGGAGGT CAGCCAATGC TACAGCACAA TGGGATTGCT CTTGAAGCGC AAGCTTTACC      6960

AGATGCCATT CACAGTGACC TTAAAGGCCA AGTCATTCTT AAAGCTGGTC AAACCTTCAC      7020

CAGTAAGACA CGTTATGAAC TTGTTGTGAA GTAAAAGAGT CATTGCGCCT ACTTTTGGGA      7080

GCTAGGAATA GGTACGCAGA GACAAATAGT AGGAAAATAT GATATAACTA AGCGTTGAAA      7140

GCTATCTGTT AATATAATAT TCAAACTACA ATAAGGAGTA AGAAAGAAAC GAAGAAAATT      7200

GTATTTGCTA GTGCCTTGGC TTTGACCTTG GCTGGAGCAG TTTTTGACAAA TGATGTTTTT      7260
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                                         1090
GCGAACGACA GACTTGTGGC AACACAAACT ACTGATGGTA AAAATGAAAA TGTATTGACC      7320

TCAGAGGTGC TAAAACCTTC TAGTGGCAAT GTTTTGGTTG GAATCAAAGG AGAATTTGTG      7380

GCTCCTCATC AACAATCTAT TTTGGATGCC ATCAATGCTA TCTGTAAAGA AGCGGCTGAC      7440

GAAGGTTTGG TAGATAAGTA TGTCCCTATC AAATGATCAA CTGACCTAGA AAAGGCAGCT      7500

TTTGCCAGAG CTACAGAAGC ATCTATAACC ATGGATCATA CCCGTCTTTC TAGCAAAGAT      7560

CTTTGGAGTG CCTTTCCAAC TTCTAATAGT ATAATGGGAG AAAATTTGGC ATGGAATCAT      7620

GACGGTTTTC TAAAAGCTAT TGAACAATGG CGTGCTGAAA AAGCAGATTA TGTGGAGAAA      7680

AAAATAGTGG TTCAGACAAC GGGAAATCTG GTCACTATGA GTCGCTAATT AACCCTAAAT      7740

TTACACACAT GGGGATGGCA GCTTTTAAAA ATCCTAACAA TCAATACAAA GCTATTACAA      7800

TTGCTCAAAC TCTAGGTGAT GATGCTTCTT CAGAGGAATT GGCTGGTAGA TATGGTTCTG      7860

CTGTTCAGTG TACAGAAGTG ACTGCCTCAA ACCTTTCAAC AGTTAAAACT AAAGCTACGG      7920

TTGTAGAAAA ACCACTGAAA GATTTTAGAG CGTCTACGTC TGATCAGTCT GGTTGGGTGG      7980

AATCTAATGG TAAATGGTAT TTCTATGAGT CTGGTGATGT GAAGACAGGT TGGGTGAAAA      8040

CAGATGGTAA ATGGTACTAT TTGAATGACT TAGGTGTCAT GCAGACTGGA TTTGTAAAAT      8100

TTTCTGGTAG CTGGTATTAC TTGAGCAATT CAGGTGCTAT GTTTACAGGC TGGGGAACAG      8160

ATGGTAGCAG ATGGTTCTAC TTTGACGGCT CAGGAGCTAT GAAGACAGGC TGGTACAAGG      8220

AAAATGGCAC TTGGTATTAC CTTGACGAAG CAGGTATCAT GAAGACAGGT TGGTTTAAAG      8280

TCGGACCACA CTGGTACTAT GCCTACGGTT CAGGAGCTTT GGCTGTGAGC ACAACAACAC      8340

CAGATGGTTA CCGTGTAAAT GGTAATGGTG AATGGGTAAA CTAGGCTCAG GCCATAGGTA      8400

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GTAATTAGTC TGAAGTCCAC ACTTACTTGT TGAGATGTTA TCTCTGTTTT TTATCGTTA?      8640

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TATCGATTTA TTGTATAATG ATAAGTAATT GTTGAAAAGT ACTCAGAAAA TTCCATACTA      8760

TATTATTTTT ATGTTTATAC TTTTATGCTA TAAAATATAG ATTGATATAA AGAATATAGA      8820

AAAAGCGAGG TTAATATGAG CCGAAAAAGC ATTGGTGAGA AACGCCATAG TTTCTCGATG      8880

AGAAAGTTGT CAGTGGGATT GGTATCAGTT ACTGTATCTA GTTTCTTTTT GATGAGTCAA      8940

GGGATTCAAT CGGTATCGGC CGATAATATG GAAAGTCCAA TTCATTATAA GTATATGACC      9000

GAGGGTAAAT TGACAGACGA GGAAAAATCC TTGCTGGTAG AGGCCCTTCC ACAACTGGCT      9060
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1091

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GAAGAATCAG ATGATACTTA TTACTTGGTT TATAGATCTC AACAGTTTTT ACCGAATACA     9120

GGTTTTAACC CAACTGTTGG TACTTTCCTT TTTACTGCAG GATTGAGCTT GTTAGTTTTA     9180

TTGGTTTCTA AAAGGGAAAA TGGAAAGAAA CGACTTGTTC ATTTTCTGCT GTTGACTAGC     9240

ATGGGAGTTC AATTGTTGCC GGCCAGTGCT TTTGGGTTGA CCAGCCAGAT TTTATCTGCC     9300

TATAATAGTC AGCTTTCTAT CGGAGTCGGG GAACATTTAC CAGAGCCTCT GAAAATCGAA     9360

GGTTATCAAT ATATTGGTTA TATCAAAACT AAGAAACAGG ATAATACAGA GCTTTCAAGG     9420

ACAGTTGATG GGAAATACTC TGCTCAAAGA GATAGTCAAC CAAACTCTAC AAAAACATCA     9480

GATGTAGTTC ATTCAGCTGA TTTAGAATGG AACCAAGGAC AGGGGAAGGT TAGTTTACAA     9540

GGTGAAGCAT CAGGGGATGA TGGACTTTCA GAAAAATCTT CTATAGCAGC AGACAATCTA     9600

TCTTCTAATG ATTCATTCGC AAGTCAAGTT GAGCAGAATC CGGATCACAA AGGAGAATCT     9660

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GCGGAAGAGG AAGTATTGGC GACGACAAAT GATCGACCAG AGTATAAACT TCCATTGGAA     9780

ACCAAAGGCA CGCAAGAACC CGGTCATGAG GGTGAAGCCG CAGTCCGTGA AGACTTACCA     9840

GTCTACACTA AGCCACTAGA AACCAAAGGT ACACAAGGAC CCGGACATGA AGGTGAAGCT     9900

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CCAGGTCATG AGGGCAAAGC TACAGTCCGC GAAGAGACTC TAGAGTACAC GGAACCGGTA     10020

GCGACAAAAG GCACACAAGA ACCCGAACAT GAGGGCGAAg cGGCAGTAGA AGAAGAACTT     10080

CCGGCTTTAG AGGTCACTAC ACGAAATAGA ACGGAAATCC AGAATATTCC TTATACAACA     10140

GAAGAAATTC AGGATCCAAC ACTTCTGAAA AATCGTCGTA AGATTGAACG ACAAGGGCAA     10200

GCAGGGACAC GTACAATTCA ATATGAAGAC TACATCGTAA ATGGTAATGT CGTAGAAACT     10260

AAAGAAGTGT CACGAACTGA AGTAGCTCCG GTCAACGAAG TCGTTAAAGT AGGAACACTT     10320

GTGAAAGTTA AACCTACAGT AGAAATTACA AACTTAACAA AAGTTGAGAA CAAAAAATCT     10380

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GTTTTCCATG GAGACAAGCT AGTTAAAGAG GTGGATATAG AAAATCCTGC CAAAGAGCAA     10500

GTAATATCAG GTTTAGATTA CTACACACCG TATACAGTTA AAACACACCT AACTTATAAT     10560

TTGGGTGAAA ATAATGAGGA AAAATACTGAA ACATCAACTC AAGATTTCCA ATTAGAGTAT     10620

AAGAAAATAG AGATTAAAGA TATTGATTCA GTAGAATTAT ACGGTAAAGA AAATGATCGT     10680

TATCGTAGAT ATTTAAGTCT AAGTGAAGCG CCGACTGATA CGGCTAAATA CTTTGTAAAA     10740

GTGAAATCAG ATCGCTTCAA AGAAATGTAC CTACCTGTAA AATCTATTAC AGAAAATACG     10800
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                              1092
GATGGAACGT ATAAAGTGAC GGTAGCCGTT GATCAACTTG TCGAAGAAGG TACAGACGGT    10860

TACAAAGATG ATTACACATT TACTGTAGCT AAATCTAAAG CAGAGCAACC AGGAGTTTAC    10920

ACATCCTTTA AACAGCTGGT AACAGCCATG CAAAGCAATC TGTCTGGTGT CTATACATTG    10980

GCTTCAGATA TGACCGCAGA TGAGGTGAGC TTAGGCGATA AGCAGACAAG TTATCTCACA    11040

GGTGCATTTA CAGGGAGCTT GATCGGTTCT GATGGAACAA AATCGTATGC CATTTATGAT    11100

TTGAAGAAAC CATTATTTGA TACATTAAAT GGTGCTACAG TTAGAGATTT GGATATTAAA    11160

ACTGTTTCTG CTGATAGTAA AGAAAATGTC GCAGCGCTGG CGAAGGCAGC GAATAGCGCG    11220

AATATTAATA ATGTTGCAGT AGAAGGAAAA ATCTCAGGTG CGAAATCTGT TGCGGGATTA    11280

GTAGCGAGCG CAACAAATAC AGTGATAGAA AACAGCTCGT TTACAGGGAA ACTTATCGCA    11340

AATCACCAGG ACAGTAATAA AAATGATACT GGAGGAATAG TAGGTAATAT AACAGGAAAT    11400

AGTTCGAGAG TTAATAAAGT TAGGGTAGAT GCCTTAATCT CTACTAATGC ACGCAATAAT    11460

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GATAATAGAA AAGCAGACAG ATTCGCTACA AAATTATCAA AAGACCAAAT AGACGCGAAA    11760

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TACTTAGATA GACAATTTGA AGAAGTTAAA GCTAATATAG CAGAACACCT AAGAAAAGTA    12360

TTAGCGATGG ATAAATCAAT CAATACTACA GGAGACGGTG TAGTTGAATA CGTAAGTGAG    12420

AAAATCAAAA ATAACAAAGA AGCATTTATG CTAGGTCTTA CTTATATGAA CCGTTGGTAC    12480

GATATTAATT ATGGTAAAAT GAATACAAAA GATTTATCTA CGTACAAGTT TGACTTTAAC    12540

GGAAATAATG AGACTTCAAC GTTGGATACT ATTGTCGCAT TAGGAAATAG TGGACTAGAT    12600
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1093

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GAAGATTCAG TCTTTGACTT CGTAGAAGCG TATAGAAAAC TGTTCTTACC AAACAAAACA    12720

AATAACGAGT GGTTTAAAGA AAATACAAAG GCATATATAG TCGAAATGAA GTCTGATATT    12780

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GGCTCTATTA AAGAATTCTT CGGACCTGTT GGGAAATGGT ATGAGTATAA TAGTAGTGCA    13260

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GCGATATTAG CTCAAAATAA TGATGTTAAG AAAAAATGGT TTAGAAAAAT AGAAAATTAT    13680

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GGTGAGTACT CATCATGGGC TGATTTCAAA AAAGCAATGT TTAAACAACG TATAGATAAA    14160

CAAGATAATC TGAAACCAAT AACAATTCAA TACGAATTAG GTAATCCTAA TAGTACAAAA    14220

GAAGTAACTA TAACAACGGC TGCACAAATG CAACAATTAA TTAATGAAGC GGCTGCGAAA    14280

GATATTACTA ATATAGATCG TGCAACGAGT CATACCCCAG CAAGTTGGGT GCATTTATTA    14340
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1094

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AAACAAAAAA TCTATAATGC ATATCTTCGC ACTACAGATG ACTTTAGAAA TTCTATATAT      14400

AAATAAGATT GTAGAGTTTC ATTGTTGAGT AGTGTTTCTT GTAAGGATGA GGAGTCAGAT      14460

GACAAATCGA CTCCTTTTTC TTATGGATCG ATGTAGAGAT TTGATTGAAT GCAGATTGCA      14520

GGAATCATCT TCAACTCATC AACGACCAAT GGTGACAAGG TGGATTTCAA TCCCACAGAA      14580

AATGTTGATT TGAGAAATAA CTTTGCTAGT CTAGTAAAAT AAATACAAAA CAATCCTAGA      14640

AGATTTTTTC TGGGATTGTT TTTTGCTGAG TGGGATGCTT CAAGTTGTCT GGCTTGACTT      14700

TCTTGAGGGA AGTTATATAA TAGTTGTAAT AATTAG                                14736
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(2) INFORMATION FOR SEQ ID NO: 172:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11770 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 172:

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ACAGGAAAGC ACGATAGCAA TCTCTTTGGA AGATTTAAAA AATATTCCTC AAAGTTTCGC          60

TGTTGCTTAC GGTGATACGA AAGTATCTTC GATTCTCTCT GTCTTGCGTG CTAATTTAGT         120

AAATCATTTG ATTACAGACA AAAATACAAT TTTAAAAGTT TTGGAAGAAG ATGGGGATTT         180

GACTTTTAGA GAGATTCTAG GTGAGTGAAA ATGATAGACT GATTCAGTTT ATCGTTTTTC         240

TTTTTAGTTG ATTGCACATT TGTGCTTATA TAAACAAAAA TAGTTTATCT GTTGTTTTTG         300

GATTGACAAC TTTATTATGT AGTTGTATTC TATAGTTACA AAAGAAAATT TTAAAATTTC         360

AAATGAAAAA AGCTTTTTAC ATAGTGAAAT GAGGAGGAAT TTATGGAAAT GATTGTTCCA         420

GATCAAATTA TCATGGGTTT AATTTTATAT GCTGGTGATG CGAAACAACA TATTTATAAA         480

GCGTTAGATT ACATAAAAAA TGGTACATGT GAACGGTGTG AAGAAGAAAT ACAGTTAGCT         540

GATGCAGCCT TATTAGAAGC TCATAATCTA CAAACAAAAT TTTTGGCACA GGAAGCGTCT         600

GGTACAAAGA CAGAAATTAC AGCTCTCTTT GTTCATTCAC AAGATCATCT CATGACCAGT         660

ATGACGGAGA TTAATTTAAT CAAAGAAATT ATTAGTTTGA GAAAAGAACT TCATAAAAAA         720

TAATACTAGA GTATTATCAT TGTTATTAAC ATAGAGGAGG AAAACATAAT GGTGAAGATT         780

GGTTTGTTTT GTGCAGCAGG TTTTTCTACT GGTATGCTTG TAAATAATAT GAAAATTGCA         840

GCGCAATCTA GTGGAGTTGA GGCAGAAATA GAGGCGTTTT CTCAGTCTAA ATTAGCGGAT         900

TATGCGCCAA ATATAGATGT TGCACTATTG GGTCCACAAG TTGCTTATAC ATTAGATAAA         960

TCAAAAGAAA TTTGTGATAA GTGTGATGTT CCGATAGCTG TTATTCCGAT GATGGACTAT        1020
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1095

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GGTATGTTAG ATGGGAAAAA AGTATTAGAT TTGGCCCTAT CTTTGATTAG TGGGTAAGAA        1080

AAGGAGATTT ATTATGTCAA AGATGGATGT TCAGAAAATC ATTGCACCGA TGATGAAGTT        1140

TGTGAATATG CGTGGCATTA TAGCTCTAAA AGATGGGATG TTAGCAATTT TGCCATTGAC        1200

AGTAGTTGGT AGTTTGTTCT TGATTATGGG ACAATTGCCG TTCGAAGGAT TAAATAAGAG        1260

CATTGCTAGT GTTTTTGGAG CTAATTGGAC AGAGCCGTTT ATGCAAGTAT ATTCAGGAAC        1320

TTTTGCTATT ATGGGTCTAA TTTCTTGTTT TTCAATTGCC TATTCTTATG CTAAGAATAG        1380

CGGAGTAGAG GCTTTACCAG CTGGAGTTCT ATCTGTATCT GCATTCTTTA TTTTGCTAAG        1440

ATCATCTTAT ATCCCTAAAC AAGGTGAGGC GATTGGGGAC GCTATTAGTA AAGTTTGGTT        1500

TGGAGGCCAA GGAATTATCG GTGCTATCAT TATAGGTTTG GTAGTAGGAA GTATTTATAC        1560

CTTCTTTATA AAGAGAAAAA TTGTTATTAA GATGCCAGAA CAAGTTCCAC AAGCTATTGC        1620

CAAACAGTTT GAAGCAATGA TTCCAGCATT TGTAATTTTC TTATCTTCTA TGATTGTATA        1680

TATTTTAGCG AAGTCATTGA CTAATGGCGG AACATTCATA GAAATGATTT ATTCTGCTAT        1740

TCAAGTTCCG TTGCAAGGTT TAACTGGATC TTTGTATGGT GCTATTGGAA TTGCATTCTT        1800

TATATCATTT TTGTGGTGGT TTGGTGTTCA TGGGCAATCG GTAGTAAATG GAGTAGTGAC        1860

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ATTAGAAAAT GGTGCACATA TTGTTACTCA ACAATTTTTA GATTCATTTT TAATTCTATC        1980

AGGTTCAGGG ATTACGTTTG GTCTTGTAGT TGCCATGCTT TTTGCAGCAA AATCAAAACA        2040

ATACCAAGCC TTAGGAAAAG TTGCAGCTTT TCCAGCAATA TTTAACGTAA ATGAGCCAGT        2100

TGTATTTGGA TTTCCGATTG TCATGAATCC AGTTATGTTT GTACCTTTCA TTCTTGTTCC        2160

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AGAATATTTT GGCAGCCTTA CTGAAAGGAT GAACAAATAT CGAGAAGATG TTTTAAATAA        2640

AAAACCTTAT ATTGATGCTG AGAGAGCAGT TCTAGCAACA CGCGCCTATG AACGATACAA        2700

GGAACAACCT AATGTCCTAA AACGTGCATA TATGCTGAAA GAAATTTTGG AAAATATGAC        2760
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1096

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TCCTATTTTT CCGGAATATA CGCTAGAATT TGTTCTCAAT GAGTTGGATC TTTTTGAAAA    2880

GCGTGATGGA GATGTTTTCT ATATTACAGA AGAAACAAAA GAACAACTTA GAAGTATTGC    2940

TCCGTTTTGG GAAAATAATA ATTTACGTGC TAGAGCTGGT GCCTTATTAC CTGAAGAAGT    3000

GTCTGTTTAT ATGGAAACAG GATTCTTCGG TATGGAAGGT AAGATGAATT CTGGAGATGC    3060

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TCAATCAGTT TGGTTTATTC AATGTATTTT ACAAATTGAA TCTAATGGCC ACTCTCTTTC    3420

ATATGGCCGT TTTGATCAAT ATATGTATCC ATATATGAAG GCTGATTTAG AAAGTGGTAA    3480

AGAAACAGAA GATAGCATTG TTGAACGTCT GACAAATCTT TGGATTAAGA CAATTACAAT    3540

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GATTCATGAT GCACCTAAGT ATGGTAATGA TGATGATTAT GCTGACAAAT TGGTTACTGC    4440

TGCTTATGAC ATTTATGTTG ATGAAATTGC TAAATATCCT AATACACGTT ATGGAAGAGG    4500

GCCTATTGGA GGAATTCGTT ATTCAGGAAC ATCTTCTATC TCAGCCAACG TAGGGCAGGG    4560
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1097

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ACGTGGAACA TTAGCAACTC CAGATGGACG CAACGCGGGT ACACCGTTAG CAGAGGGTTG    4620

TTCACCATCA CATAATATGG ATCAACACGG CCCTACATCT GTTTTAAAAT CTGTTTCAAA    4680

ATTACCAACA GATGAAATCG TAGGTGGGGT TCTCTTAAAT CAGAAAGTAA ATCCTCAAAC    4740

GTTAGCCAAA GAAGAAGATA AATTAAAACT AATTGCTTTG TTACGAACAT TCTTTAATCG    4800

TTTACATGGG TACCATATTC AATACAATGT TGTTTCCAGA GAGACGCTGA TTGACGCTCA    4860

GAAACATCCT GAAAAACACA GAGACTTAAT TGTTCGTGTT GCAGGATACT CTGCATTCTT    4920

CAATGTTCTT TCTAAGGCAA CCCAAGATGA CATTATAGGA CGTACTGAGC ATACTTTGTA    4980

AAATAAAGAG GTTCTTTTTA TGGAATTTAT GCTTGACACA TTAAATTTAG ATGAGATTAA    5040

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CGATTTGAAG ATTACCTACA TAGGTATGGT TTCCATATTG TTCTGGCGCT ATTTAATGGT    5880

GAAGCTTCTG ACAATGAAAT CAATCGAGTT GTTGCCTTGG CTGAGAAAGA AAATTGTGAT    5940

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CCAGATTTAG TTTTGGTTGA TACAAAAGTT ATTTCACAAG CCCCTAAGCG TTTATTAGCG    6180

TCTGGTATTG CAGATGGTTT AGCAACTTGG GTTGAGGCGC GTGCGGTTAT GCAGGCAAAT    6240

GGAAAAACTA TGTTGGGACA ACAGCAAACA TTGGCTGGAG TTGCAATTGC GAAGAAATGT    6300
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1098

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GAAGAAACGC TGTTTGCAGA TGGTTTACAG GCTATGGCAG CTTGTGAAGC TAAAGTGGTG        6360

ACACCAGCAT TAGAAAATAT TGTTGAAGCT AATACTTTAT TGAGTGGTCT AGGTTTTGAA        6420

AGTGGAGGAT TAGCTGCGGC GCATGCAATT CATAATGGTT TTACTGCATT GACAGGTGAC        6480

ATTCATCATT TAACACATGG TGAAAAAGTA GCTTATGGAA CTTTAGTACA ACTATTATTG        6540

GAAAATAGAC CTAAAGAAGA ACTTGATAAG TATATTGAGT TTTACAAAAA AATTGGTATG        6600

CCAACAACTC TAAAAGAAAT GCATTTGGAT CAAGTTGGAT ATGATGATTT AATAAAAGTT        6660

GGTAAACAAG CAACTATGGA GGGTGAGACA ATTCATCAGA TGCCGTTTAA GATTTCGCCT        6720

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GGTCTAAAAT AAGTATTTTG TGCTATACGA GATAAGCTTC TTGACTTACT CCTTGATTTA        7080

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TAAGTGGCAG GGCTACTGGG CAGAACATCA TACATTTAAG ACAGGAACAG ATACATCAAA        7320

ACCTAAGTTT TATGCGCTTG ATATGTTCCC TTATCCGTCT GGAGCTGGTC TGCACGTAGG        7380

ACACCCAGAA GGTTATACTG CAACCGATAT CCTCAGTCGT TACAAACGTG CGCAAGGCTA        7440

CAATGTCCTT CACCCAATGG GTTGGGATGC TTTTGGTTTG CCTGCAGAGC AATACGCTAT        7500

GGATACTGGT AATGACCCAG CAGAATTTAC AGCGGAAAAC ATTGCCAACT TCAAACGTCA        7560

AATTAATGCG CTTGGATTTT CTTATGACTG GGATCGTGAA GTCAACACAA CAGATCCAAA        7620

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TGTAACTTTC AAAGTAAAAG GAACAGACAA GGAATTTACA GTCTTTACTA CTCGTCCGGA        7980

CACACTTTTC GGTGCGACTT TCACTGTCTT GGCTCCTGAA CATGAATTAG TAGACGCTAT        8040

CACAAGTTCA GAGCAAGCAG AAGCTGTAGC AGACTATAAA CACCAAGCCA GCCTTAAGTC        8100
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1099

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TGACTTGGCT CGTACAGACC TTGCTAAAGA AAAAACAGGG GTTTGGACTG GTGCTTATGC    8160

CATCAACCCT GTCAATGGTA AGGAAATGCC AATCTGGATT GCAGACTATG TCCTTGCTAG    8220

TTATGGAACA GGTGCGGTTA TGGCTGTGCC TGCCCACGAC CAACGTGACT GGGAATTTGC    8280

CAAACAATTT GACCTTCCAA TCGTCGAAGT ACTTGAAGGT GGAAATGTCG AAGAAGCTGC    8340

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CCTCGGTGTT GTTCCGACTA AGGAACCATT CCAAAAACTC TTTAACCAAG GGATGATTTT    8940

GGGAACAAGC TACCGTGACC ACCGTGGTGC TCTTGTGGCA ACCGACAAGG TTGAAAAACG    9000

TGATGGTTCC TTCTTCCATG TAGAAACAGG GGAAGAGTTG GAGCAAGCGC CAGCCAAGAT    9060

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AsCCAACTAA ATTAGTTAAC ATTGTTGTGA AATAAGATAG GAGTCCTTCA GAGTAGAATC    9840
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                                    1100
TGGAGGATTT TTTGAATCTT CTTATGAAAG TATGATATAC TATGGGCAAC TATAAAGTTT    9900

GAAAAGTGAA ATAAGGAGAA TAAGATGCCA GTAAATGAAT ATGGTCAAAT GATTGGGGAG    9960

TCAATGGAAG CTTATACTCC AGGTGAATTG CCTTCTTTTG ATTTCTTAGA AGGGCGTTAT   10020

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AACCGAGTAA TAGAAGTGGG AGCTGTCACT TTTTCTCCAG AGCTCAGGGG GACACGGATA   10320

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TATGAGTGGA AATGCGATGC TCTTAACCTG CCATCCAGAC GAGCAGCGGA ACGTTTGGGA   10440

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GATTGGTTGT CTATGATTGA TAAGGACTGG CCTCAAGTCA AAGCTCGATT GGAAATATGG   10560

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CAGATTTCCT ATTTTCACTG TAACCTTTTA ACGTCCTCAT ATCTTGTATA AACGAGGAAA   11520

GATGTACGAC TTATCCCGTG AGGTTTCATG AGCGCTGAAA GCGTAGTAAC AACGAATCAT   11580

GAGAAGTCAG CCGAGCCCAT AGTAGTGAGG AAACTTCCGT AATGGAAGTG GAGCGAAGGG   11640
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1101

GTGAATACTC AAACAGTCTG GGGAGAGACT GTTTGAGGTC TGTCGCTAGA AAGAGAAAAC   11700

GACAGATCGA AGTAATCCTA CTTCACTTGT GTCTGTAAAA TGAGTGGTCT GATAGAACTG   11760

GACTTTGAGG   11770

(2) INFORMATION FOR SEQ ID NO: 173:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4185 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 173:

CGCGAAACTA CTTTCTTAGT ATAACACTTT CAGAATCATT GTCAATAGAA ATGACTTGAT   60

TTTTTCAATT TTTTCAAGCT ATTTCCAAGG GTTGTAAAAT CGTCCCTGAT TCTGCAAGAT   120

AAGTAGTAAA CTAACTACTA AAAACAAGGT TGCCAAGAGC AAGGTAAATA AGTCTCCTTT   180

TTTCAAGGCC TGATAACTAT ACCATGTGCG TTTTTTCTCT TTCCCAAAGC GGCGAACTCC   240

ATGGCAGTCG CAATGGTATC AATGCGTTCT AGCGAGCTAA AAATCAAGGG CGTAATAATG   300

AGCAGATTGC CTTTGATTCG TTGCATAAGA GAAGCTTTCT TGGATAATTC CATCCCACGC   360

GCCTCCTGAG ACATCTTGAT AGTAAAGAAT TCTTCCTGCA AATCTGGAAT ATAGCGCAAG   420

GTCAGGCTGA CAGAATAAGC AATCTTATAG GGCACACCAA TTTGATTTAA ACTGGAAGCA   480

AACTGACTAG GATGGGTTGT CATCAAAAAG ATAATAGCCA GAGGAATGGT GCAAAGATAC   540

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CCCTGCCAAA TCACACTTCT CTCTCCATAA AGTCCAACCC CATACTCGGG AGAAAAGAGA   660

TAGACCATCA AAACGTTTAA AACGGCAAAT ATCGTCGCAA AAACGGCTAC AAAGGAAACA   720

TCTTTAAAGC GAATTTCTGA TAAATAGAGG AGAAAGACTG AAAAGATGGC AATCAGCAAG   780

AGCATTCTGG TATCATAGCT AATCATGGCC GCCAATGATA CCAGAATGAA AAAGAGAAGT   840

TTCCCAGCTC CTGACAAGCG ATGAATCACA GTATCTCTAT GCTGGTAACC GATTAATTTA   900

GCTTGCATCC CTCTCTCCTT TCTTTGTAAA ATGCCGTTAA ATCCAGTGGA TCCACATCTA   960

GTTTCTTAGC CAAGTTAAAG ATGGAGGTTT CTTTTAGATT GGCTTTTACT AACAGCTCAG   1020

GATCGCTCAA CAGACTGGCT GGAACAGTAT CGGCAATCAA TTCTCCATCC ACCATGACAA   1080

GGACCCGGTC TGAATAATCC AGCATCAATT GCATATCATG GGTAATCATG ACAATGGTAT   1140

GCCCTTTTTG ATGTAACTCT TCGAGAAATT CCATAATCTC AGTATAGTTC TTCTGATCTT   1200

1102

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GACCTGCAGT CGGTTCATCT AGGAGAATAA TTTCAGCTCC TAAGACCAAA ATTGAAGCAA        1260

TGGTGACACG TTTTTTCTGA CCAAATGACA GGGCAGAAAT AGGCCAATTA CGGAATTCAT        1320

AAAGTCCACA GATTTTCAAG GTTTCATATA CTCTCGTTTC AATTTCCTTC TCATCCACAC        1380

CTCGCAAACG GAGCCCTAGA GCCACCTCAT CAAAAATCAT ATTGGTTGAA ATCATTTGAT        1440

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TATCCTGTTT TTCCCAAAGA TAGCGTCCTT CCGTCTGAAT AAAGCTACTT ATAGCCTTGG        1560

CTAGAGTTGA TTTCCCTGCT CCATTTTTTC CGACAATAGC AATCTTTTCA CCCTTTTTAA        1620

TATCTAAATG TAGGGATTTT AAAATCGGTC TATCATCATA AGAAAAAGAT ACTTCCTCTA        1680

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GACCTTTTGA GATAGACAAG TTATCCAGAT TCGCTAATTG TTCTTCCTTG ACTAAGTCCA        1800

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AGACAATCCG ATCCACAGGG CGATGCAGAA CGTCCTCCAA ACGGTGCTCG ATAATAAGAG        1980

TCGTCGTCCC CTCTTCCTTA TGAATCTGGT CAATCAATTC GATAATATCC TGACCTGACT        2040

TGGGATCTAG ATTGGCGAGT GGCTCATCAA ACAAGAGAAT CGGACTTTCA TCAATCAAGA        2100

CACCAGCCAG ACTGACTCGC TGCTTTTGTC CACCTGACAA ATCCTGAGGA CGCTGATCCA        2160

GTAAAGGAAG AAGGTCCAGC TTTTCAGCCC ATTTATAAAC ACGACCTTTC ATCTCATCTA        2220

GGGCTGTCAC ATCATTTTCC AGAGCAAACG CCAAATCTTC TGCCACAGAC AAGCCAATAA        2280

ACTGCCCATC TGTATCCTGC AAAACTGTGC TAACCAGATG AGACTTATCA TAGATGCTCA        2340

TATCAAAGGC TACTTGACCC TTTATCAAAA ATTCTCCATA TGTCTGACCC TTGTAAATAT        2400

TGGGAATAAT CCCATTCAAA CACTGACCCA AGGTAGATTT ACCTGACCCA GATGGTCCAA        2460

CAATTAAGAC TTTCTCTCCC TTGTAAATGG TCAAGTCTAT CCCTTGCAAG GTCGGTTCTT        2520

GTTGTGTTTC ATACCGGAAA GAGAAATCCT TCCACTCAAT TaTAGCTTCT TTCATCTTAC        2580

TCTCTTCATT CGCTTCTTAG ACTTCTATTT TATCATAAAT CAAGCCCTTC TTGCAGTCTC        2640

TCCTCTTAAA ATCTTAGCGC CAAAAAGATT CCTATCCTAG CTTACTTGCC TAACTAATCT        2700

ATAAACATCG AAAAAGACTA GTTGCCCAGC CTTCCCCATC ATTTTATACT CTTCGAAAAT        2760

CTCTTCAAAC CACGTCAGcT TCGCCTTGCC GTAGGTATGG TTACTGACTt CGTCAGTTTC        2820

ATCTACAACC TCAAAACCAT GTTTTGAGCc TGCTTCGTCA GTTCTATCCA CAATCTCAAA        2880

ACACTGTTTT GAGCAACtGC GGCTAGCTTC CTAGTTTGCT CTTTGATTTT CATTGAGTAT        2940

TAGTCCTTTT TCAAACTTCC TGCACGAGTT TGGGTTCCTG CATAGGCAAG TAAGAGAAGA        3000
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1103

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GTTCCTGCAA TAGCTACAGA TACACCATTG GCAATTCCCG CAACAATCCC TTGTGCAAAT      3060

ACTTTTTCTG CCGCTTCTTG ATAAATCACA ACATCTCCAA GTGGTGCCAA GACACCCCAA      3120

ACAAGGGCAT TTGCAAGTAG TTGAATGAGA TTAAAAATAA GAATATCTTT CCAGTCAAAA      3180

ACACCATTGA TCACGCGAAC GTACTTTCTA AAAAGTCCCA CAACTAAACC AAAGAGTCCG      3240

CTAGCGATAA TCCAAGTCCA CCATAGACCA TAACCAACAA GAGAGTCCTT GATTGCATGA      3300

CCAATCAACC CGACAAGCAA ACCGATAATC GGTCCAAAAA TAATAGAAAG TAGCGCTTGT      3360

ACCGCATACT GAAGCTGGAT GCTTGTATTT GGAACAGGGG TTGGAATGTT GATCATCCCG      3420

ATGACGACAA AGAGGGCAGC GCCAATTCCG ACAGCAACAA CTTGTTTAAT TGTAAATTTG      3480

ATTTCCATAC TATTCTCCTA TTTTATCCTT CTATTTTCTT TATTTCAATG GTCCAAGATG      3540

AACCGACACC TACATTATAG GCCTTGGCAA AGGAACCTTG GTTGATAGCC AAACCTAAAC      3600

GATAGAGAGA GTTGATGTAA AGGATGGGTT GCCCAATTCT CACATCTGCA AATGATTTGC      3660

CATAGACAAC CTGATTTTGA TAGACCAGCA TATCAGCATG ATAGATGGTC ACTTCAAAAC      3720

GATCACCAAA TTCTGGTTCC AGCTTGTAAA ATTCTTCCCG TGTGATAGAG GTCCAAAGCG      3780

AACCGAAACG CACATCCAGA ATATCAATGG CTCCCTTCAC CAGATGATCT TCTATGATGG      3840

TCGCTACGAC TGGAAGCTCT ACAATCTGTT CCACACTGAG CTCTGGCCCT ACTTCCTCAA      3900

AAGTAATGTG ACCACTGGCC AGTTTAGCAC CAGTATAGGC ATAGACATCA CGACCGTGGA      3960

AGGTATAAGA ATGCTCTGTG TTTTGACGCC TATTGGCCAC CTCAGAAATC TCACGAATGG      4020

CTACAATGCC AACGTGTTTC TTGATAAAGG AAAGCGTCCC ATTATCTGGC GTGACAATGT      4080

ATTGATTTTT TGCAGTCTTG GCAACTACAC TCTTACGTTT CGAACCGACA CCTGGATCGA      4140

CAACCGATAC AAACGTCGTT CCCTCAGGCC AGTAATCCAC CGTCT                      4185
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(2) INFORMATION FOR SEQ ID NO: 174:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2069 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 174:

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TGATAGAGTT AAAGCCGCTG AGTCATTCAA TCCATCTCCA ACCATCAAAA TAGTGTGACC       60

TGCTTTCTGC AGTTTCTCTA CTAACTCAAA TTTCCCATCA GGTTTCAAGT CTGTATAGAC      120

CTGATCAAAG GGCAAATCTT TGACTAATTC CTCTGTCCTA ATCAAGGTGT CTCCTGTTGC      180
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1104

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CAGAATCAAT TTTTyCCCCT GTGCCTTAAG TTTATCCAAG GCTGTTTTTG CTTCTTTTCT      240

CAAAGGAGTA TGAATGCAGA ACATTCCAAT CAATTCATTT TGATAAGCCA AGAATAAGAG      300

ATTGTAGTGA CTCTTGTACT CTTCAATTAA AGCATTTTGT TCTGAACTGA TATGAATCTG      360

CTCATCCTGC ATCAAGACAT AATTCCCAAT AAGAACTGGT TGGCCATCTA TATGAGATTT      420

GATCCCCTTG CTTGCGATAT ATTGGAGTTT CCCATGCATT TCCTCATGTT CAATTCCCTC      480

TATCTCAGCT TGCTTGACGA TGGCATTAGC AATAGGATGA TAAATGTGTT CCTCAAGACA      540

GGCACTGATT CTGAGAATAT CTTCCTCACT ATAGTCTCCA AAAGGTAACA CCTTTTCAAC      600

TATAGGATAA CTAGTTGTGA TTGTTCCTGT CTTATCAAAC AAGAAAGTAT CAACTTCCAG      660

ATATTTCTCC AGAACATCTC CATCCTTAAT CACCATTTCA CGGTTCAACC CTTCCTTGAT      720

AACTGTCAAA TAAGCTACAG GAGTAGAGAT TTTCAAAGCG CAGGAGAAAT CGACCAATAG      780

GAAAGAAATA GCCTTAGAAA AAGAACCTGT CAATAGGTAA GTCAGCCCAG CCCCCAAGAA      840

ATTATATTTG ACGACTTTAT CCGCCATCTT GATGAAATAG CGTTGTTTCG TTTTCTTGTT      900

TTCTTCAGAT TTCTTCATCA ACTCAATCAG CTGTAAAATA CGGCTGTTCA TCTGATTATC      960

TGTTACACGA ATGCGTAACT CTCCAGTTTC TAATACTGTA TTTGCACAAA CCAAATCAGA     1020

CTCTCTTTTT TCAACTGGAA AACTCTCTCC TGTCAAGGAA CTTTCGTTGA CCATACCTAA     1080

ACCTGAAACT ACTTGTCCAT CAAACAGAAT TTCATTTCCT TGAGATAAGA TCAAGACATC     1140

TCCTATTTGA ACATCGGAAC TCTTGATACT AACAACCGTA TCGCCCTGTA CTAGGAATAC     1200

ATCGCTCTCT TTTGCAAGAA GACTCTGTTC TAAATCTGTT GCAGTTTTTT TCAAGGACCA     1260

CTGATCTAAA TGATTCCCCA AATCAAGCAT AAACATGATA TTGCTAGCTG TCTTGGATTG     1320

GTTCATAAAC AAAGACAATA AAATAGCCGA ACAGTCCAAG ACTTCCATCG TTAGTyCCTT     1380

ACGCGCTAGT GTTTGATAGG CTTCTCTAAT ATAACCCAAA GCCTGATAAC AAGTCCATAT     1440

ATAGCGAATA GGATACGGCA CAAAACTACG AAAAAGTACA CGCTTAACCG CTGCACCTGA     1500

AACAATAGAA TAAGCACTCT CTTCTCTACG AATGGGAAGA GTCATCAACT CAGAAACTTT     1560

CCCTTTATCA ATTCTTTTTA AAAAGGCTTC TGCATTATCT AATACAGAAA AGCCTTCTTT     1620

TATGCGTAGA GTAAAGTGCT GTTGATCCAT GTAAAACTGG ATAGACTCAA TCCCCTTTTC     1680

ATCTCTCGCC AAGGAACGAA GATAGTCTTG AATATCCAAG GTAAGTGAAA AAGAAGATGA     1740

TAGTCGGATA TGTTGGTATC CTCTATGTAG CACTTTAAAA GACATATTAT TCACCTATAA     1800

GGCTATCTAA TTGCTCTTCT TTTTTCTCTT GCTCGTACAA ATATTTGGCA TCTTGCAAGA     1860

CATCGTCTCC ATGTTGCTTC ACAACAGAAA CAGATGCATC TAGCTCGTCT TTCAACTTGT     1920

AAGCCTTAGC CAAAGCTTTA GAATAACCTT TTTTAGCTTC CTTACTTGCT AAGATTTTCA     1980
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1105

AACCAAGGGT ACCAAATGCG ACACCACCCA AAAATAATGA AGATTTTTTC GCAACTTTTG   2040

CAACGGTTAA TACTTCTTTT AACATAGGG   2069

(2) INFORMATION FOR SEQ ID NO: 175:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4597 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 175:

AAATCTTGCG CAATAAAGCT CATCTCCATC TCCCGATTGA AACAGTCACT CCCCGGACTG   60

TTTCAACGTC CCAAGACATA ATCTTAGGCA GATTTCTAAA ATTACACTCA AAGTGGAAGT   120

CATTGAGCTT TCGAATGACA GTTGAAGTTG AAATGGCCAG CTGATGGGCA ATATCGGTCA   180

TAGAAATCTT TTCAATTAAC TTTTGCGCAA TCTTTTGGTT GATAATACGA GGAATTTGGT   240

GATTTTTCTT GACGATAGAA GTTTCAGCGA CCATCATTTT CAAGCAATGA TAGCACTTAA   300

AACGACGTTT TCTAAGGAGA ATTCTAGTAG GCATACCAGT CGTTTCAAGG TAAGGAATTT   360

TATAGGGTCT TTAATGTCTA GTAATTTTGT GATAAAATGT AATTGTTCCA TATGATTCTT   420

TCTAATGAGT TGTTTTGTCG CTTTTCATTA TAGATCTTAT GGGACTTTTT TTCTACCCAA   480

AATAGGCTCC ATAATATCCA TAGGGAATTT ACCCACTACA AATATTATAG AGCCCAAAGT   540

TTTAGGTCGC TTGATAATAT GCGTTTTTTG AATTTTATAG ACTGCTCGTT TAAACTCTAT   600

TTACTTCGTA CCTTCTGGAG CGAGACGGAA TATTAGTCAC ATACAAAATG AGTACTATTA   660

GGATTTTATT TTCATGTACA ATTTCAGCCA GTCTTGTTAT AATCAGCCTA TAGGAATCAA   720

GGAGGTGACT CTTATGGCTG TTTTTGTGTC TTTGGATGGA ATTGTGGTAG AAGTCCTTGA   780

TGTCTTTTCT TCTTTTAATG GGGATAGTGA GTTTTTCTTG TGTATAGCAT TTTGAATCTG   840

GAATAGGACG CCATGACTGC TAAAAGATTT CTATAAATTA ATTTGATTTT CCTAATCAAT   900

TTGTTCATAT CTTATTTCAT TCCACTATAA ACGTCTTAAA GACAAGAGTC AGTTTGTTAT   960

GGAACGCTCT CAGTTCGAGG AGATGTTCCA ACTTCAAAGT AGTCGCTTGA CGACGCAAGA   1020

AAAATTACAA TTGTTTACCT CTGTGTTTGC TGGCCGTTAT GATGTTTATG CTAAGAATTT   1080

TATCAATGAA CAAGGGAAAA TTCAGTATTT TCCTTCCTAT GATTATGGTT GGAAGCAGTT   1140

GCCACCTGAA AAACGGAGTT TCCAGACATT GACGAACTCC GTTTTGAAAT CTCATTTTCG   1200

TGGGGAGGCA GCTATCGGTA TCTTTCCTAT GCACTTAGAT GATAGCTGTT ATTTTTTGGT   1260

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                                    1106
        ACTGGATTTG GATGAAGGAG ATTGGAAAGA AGCTGGTTTA ACCATTCGAA GAATAGCCAG        1320

        GGAACGCCAG ATGGAAGCCC ATTTAGAGAT TTCTCGTTCG GGTCACGGAC TCCATATTTG        1380

        GTTCTTCTTT GAGGAAGCGA TTCCGAGTCG AGAGGCTCGC TTGTTTGGAA AGAAACTGAT        1440

        AGAACTGGCA ATGCAGGAAA GTATGCAACT GTCCTTTGAT TCTTTTGATC GCATGTTTCC        1500

        AAATCAGGAT GTCCTTCCTA AGGGGGGATT TGGAAATTTG ATTGCCTTGC CTTTTCAAGG        1560

        AGAAGCTTAC CATCAAGGGC GAACGGTCTT TGTGGATGAA CAGTTTCAGC CTTATGAAGA        1620

        CCAATGGAGG TATCTACAAG AAATTCAGAG GATTTCAACT GCTAAAGTGG CACTGTTAAT        1680

        CCAAGAGGAG TTAGGCAAGC AAGAATTGGA TAAGGAGTTG AAGGTCGTTT TATCCAATAT        1740

        GATCCAACTT GAAAAATCGT CTGTGACATC CAAGGCACTT TTTTCTTGAA AAATATGGCT        1800

        TCCTTTTCTA ATCCCGAATT TTATAGTAGA TTGAAACTAG AATAGTACAC CTCTGCTTCT        1860

        AAAACATTGT TAGAAATCGA TTTGACTTTC CTGATCGATT TGTCCTGTTA TTATTTCATT        1920

        TTACTATATT TAAAGCAGGC TATGCGACAG CCAACCTATC AAATTCCTGA GAGAATGTAT        1980

        TTATTTGGAG AATCCGATCA TTATTTATGG TTGCCAAGAG GTTTGCTGTA TCCATTGCAA        2040

        GATAAATTTA AGCAGGTATC TGTGGAAGAT AGGAGAAAGG TACAAAGGTC TATTAGCGTG        2100

        GAATTTAAGG GAGAACTCAC TTTTGAGCAA GAGTTAGCCC TGTCAGATAT GACTTCTAAA        2160

        GAAAATGGTT TACTTCATGC GGAGACTGGT TTTGGGAAGA CCGTTTTAGG TGCTGCTCTT        2220

        ATCTCTGAAC GGAAAACAAA AACAATTATT CTAGTCCATA ATAAGCAACT CTTAGACCAA        2280

        TGGCTAGATC GCTTAAACTG CTTTTTTGACT TTCGAAGAGG AGGAGGCTAT CCGTTATACG        2340

        GCATCAGGTC GTGAAAAGGT AATCGGCTAT GTTGGGCAGT ACGGTGGGAC TAAGAAATGG        2400

        CTGAGTAAAC TGGTTGATGT CGTTATGATT CAATCTCTAT TTAAGTTGGA AAATAGTCAA        2460

        AGTCTTTTGG ATGAGTATGA GATGATGATT GTGGATGAGT GTCATCATGT CTCTGCCTTG        2520

        ATGTTTGAAA AAGTTGTTGC TCAGTTTAGA GGGAAGTATC TTTACGGTTT GACGGCTACG        2580

        CCTGAGCGTA AGAATGGTCA TGAGCCTATT GTTTTTCAGA GAATTGGTGA GATACTCCAT        2640

        ACTGCTGATA AGAGGGAAAC GGATTTTAAA CGGCAATTGC AATTAAGATT CACTTCTTTT        2700

        GGTCATTTGG AAATTGAAAA GACCAAAGCA AGTAATTTTA TACAGCTTAG TGATTGGATT        2760

        GCTACTGACT CAGTGAGGAA TCAGATGATT CTCAAGGATA TTCTAGCCCA AGTGGCAGAA        2820

        GGACGGAATA TCTTGGTTTT AGTTAATCGA ATTCAACAGA TAGATGTCTT TGAAAAATTA        2880

        TTGAAAGAGA AAGAGGTTGA TGACTGTTAC ATTATTAGCG GAAAAACCAA AGTCCGAGAG        2940

        AGAACGAGTT TACTGGAGAC GTTAGAACAG TTAGATAAAG GGTTTGTTTT GTTGTCTACT        3000

        GGAAAATACA TTGGCGAAGG TTTTGACTTA CCTCAGTTGG ACACGCTTAT CTTGGCAGCA        3060
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1107

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CCCTTTTCTT GGAAAAATAA TTTGATTCAG TATGCAGGTC GGATTCATAG AAACTACAAG    3120

GATAAGTCTT TGGTGCGTAT TTTCGATTAT GTGGATATTC ATGTTCCTTA TTTAGAAAAG    3180

ATGTTTCAGA AACGACAAGT AGCTTATCGA AAGATGGATT ATCGTGTCAT CGAGGGTGAG    3240

GAGAAACAAT TCGTTTATGT TGATAGTAGA TATGAGAAGG TGTTGAGAGA GGACTTAGCA    3300

GGGGAAAGAC AGGAATGTCT GCTTATTTTA CCTTATGTGC ACCAGACAAA ACTGATGAAT    3360

TTTCTAAAAG AATTTAGGAT TAGTCAAATT GAGATATGTA TACCAGAGAC GGTTGCAAAT    3420

AAAGCATGGC TAGACCAGTT GAAGAGCCAG AAAATTAAAG TGTCTTTTAC TCAATCAAAA    3480

ATAGTAACGC CTATTCTTTT GGTGAATAAG ACTATTGTTT GGTATGGTGC AATGCCATTA    3540

TTAGGGAAGG TAGATGAGAT GACCATATTA CGTTTGGAAT CAGCTAGTAT AGTTTCTGAA    3600

CTAGTGGCAG GTTTACGATA GAGAAAATTT TTAAAAATTT CTATGTATGA TTTTCATTTC    3660

TTTAGTGAGA CTGTTGCCAT TATCACATTC GAATCACACA AAATAAAAAA ATTTTTATAA    3720

GTACTTGACA AATAGATTGA AATATCATAA AATAAAAACG GTTACAGAGT TATTAATTAT    3780

TTAAGCTTCA TGTCACCATT AAAAATTGAA ATAAAAGGAT GTTATCACTA ATACAAGTGA    3840

GCAGGAACCT ATTTAATCAC ATCAGAAGAA GTTTCTTGAT GTTTTTAAGT AGGTTCCTTT    3900

TATTTTAAAA GGGAAATTTT ATGATCATAA AACGAATACT AAACCACAAT GCCGTAATTG    3960

CGCAAAGTAA AAAAGATATC GATATTCTTC TTTTTGGAAG GGGAATAGCT TTTGGAAGAA    4020

AAACTGGAGA TAAAGTAAAT CCAATTGATA TTGAGAAAG TTTTTTTCTC AAAAATAGAG    4080

ATAATATGAC CCGTTTTACA GAGATGTTTA TTAACGTTCC TTTGGAGTTG GTGTACATCA    4140

CCGAAAAAAT AATTAACCTA GGTAAAATAA CATTGGGTAA TAATTTTGAT GAAATTATCT    4200

ATATTAATTT AACGGATCAT ATTTCTTCGA GCATAGAACG TTATAAAGAA GGGATTATTA    4260

TTTCGAATCC CCTACGCTGG GAAATATCGA AATATTATAA AGAAGAATTT GAACTTGGGA    4320

AAAGGGCTTT ACAAATAATA AAAAAAGAGT TAGGTATTGA ACTTCCAATT GACGAAGCTG    4380

CATTCATAGC GCTACATTTT GTTAATGCTA ATTTAGAAAA TAATTTTCAA GAGTCGTATA    4440

AAATCACTGA AATAATTATG GGAATTGAGA AAATCATTCA AGATTTCTAT TGTACTGAGT    4500

TTAACCAAGA TTCTATTGAT TATTATAGAT TCATAACTCA TATGAAATTA TTTGCCCATC    4560

GCTTGGTTGA GAATACAACT TATTGTGACG ATGATGA                              4597
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(2) INFORMATION FOR SEQ ID NO: 176:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3984 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

1108
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 176:

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CGGCTTATTT ACTACTTGTT CCATCATATA TGGAATATGC ATGAAACCTG CTCTCATATT        60

AGGGAATTTT TTATCCACTA AATAAAGAGC TTGGTACATC AAATGATTGC AAACAAAGGT       120

TCCTGCACTA TTGGATACAA CTGCCGGAAG TCCCTGTTTT TTGATAGCTT GTACCATCGC       180

TTTGATAGGT AAACTACTAA AATAGGCCGA TGCTCCATCA ATACGAATCG GTGTATCAAT       240

TGGTTGATTG CCTTCGTTAT CAGGTATGCG AGCATCATCT TGATTAATAG CCACTCGTTC       300

AGGTGTTAAG CCGGTCCTGC CGCCTGCTTG TCCAATACAA AGTACAGCAT CTGGTTGATA       360

TCGTAATATT TCTGCCTCTA AAACTTCTGA CGACTTATAA AAACCGTTG GAATTTCTAC        420

CCAGCGAACT TCAGCCCCAT TAATCTCAGA TGGTAATAAT TTTACAGCCT CCAAAGCTGG       480

ATTAATCTTT TCACCTCCAA AAGGATTAAA ACCTGTAACC AATATTTTCA TTTTATTTTC       540

CTTTACTAAA ATGCGAGAAA GTACATTAAG AATATGTGAA TAACAATCAT TACTAGAGCA       600

ACACCTGCTT GAGCCTTTAT AACGCCATTC TGATCTTTCA TATCCATCAA TGCTGCTGGT       660

AGAGCGTTAA AATTAGCAGC CATTGGGGTC AATAAGGTCC CACAATAACC TGCTGTCATG       720

GCAAGAGCAC CAGCCACAAT TGGATTAGCT CCCAGAGCAA ATACAAAGGG AACTCCAACA       780

CCTGCTGTAA TAACGGTGAA TGCTGCAAAA GCATTTCCCA TAATCATTGT GAATAGAACC       840

ATTCCAAGAA CATAGGCCAA AACTCCTATA AAGCGACTAT CTGAAGGAAC AATACCGCTA       900

ATCAGATGAG AGATAACATC ACCAACACCT GCTACAGTAA AAATAGCCCC CAAAGCCCCT       960

AATAATTGAG GAACAATCCC ACTTGTTGAA ACTTGCTGAG TCATTCGATT ATTTTCTGAT      1020

AACAGACTCT TAGGGTGACT ATTGGTAATC ACAAGAACAG AAATTGTAGC AAACAAGGCG      1080

GCAAGGCTAA TCGAAATCTT GCTAAATTCT GGAATCATTT GCGCTAAGAC CAACGCAAGT      1140

ATTGCCATCA GCATAACTGG AATAAAAATT TTATTTTTCA ACCTGTTAGA TTCAATATTG      1200

GCTTTCATTT CATCTAAGGA TGGCAAGGTT CCGATACGGA CTTGCTTAAA CAATGTTAAC      1260

AGCGATAATA GGATTACAAT AATACCAATA CTCATATTTG GCATATAGGA ACCACCTATA      1320

AACGTAATAG ACAATAGAGT CCAAAATGCA GATGTCCCAA GTCGAACTGG GTTTGTTTTA      1380

TCTTTATAAC TACAATAGGC TGTATGGAGA AATTGACAAC CAATCACAAT ATAGGTCAAC      1440

TCTAATAGTT GCTTTGCCAA CTCTGTCATT TTTGTTCTCC TCCCCTAGTC TTTTTTGATA      1500

TCAATTTTTT ATCAAATAAA TAATTATAAA TCCCCACTAC AATAAGTGTT ATAACAGCAA      1560

CAATAATAGA TGTAGAAGCA ATCCCTGCAT AATTGCTTTC ATAGCCTAAC TGATCTAATG      1620
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1109

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TTCCCCCTAT CAAGAGGACT CCCCCAGCAC CTACAAACGT ATTTTGAGCA AAGAAATTTC    1680

CAAAATTTTC ATTCGCAGCC GCACGCGCTT TTATTGTCTC ATCTTCAACC TCTGTTAACT    1740

TTCTACCTAA TTGAGACTCT GCAGCTGCTT CTCCCATAGG TTGAACCAAA GGTCTGACAA    1800

ACTGAGGGTG TCCTCCTAGA CGAATTGAAA AGAAACCAGC TAACTCTCGA ATAAAGAAAT    1860

AAACTGTATA GAAGTTTCCA ACTGTCAGAC CTTTAATCTT TCGAATCAAA TCGATTGATC    1920

GTTGCTTGAG TCCAAAGGTT TCTGACAGCC CCACAAGAGG CAAGGTAACC ATAAAAATCG    1980

TGAGCACTCG CTGATTGCTA AATTCTTTTC CCAAAATCTC CAAAAATTCA ACGAGAGAAA    2040

CACCTGAAAC TAAAGCTGTA ACCAAACCAG CTAAGACTAC TGTTGCAATT GTATCAAATT    2100

TTAAAATAAA ACCCACAACA ATGATTGCTA TTCCTATTAA TCTAATCCAC TCCATATCAA    2160

ACTCCTTTAT ATTCAAAATG ACAGTATTTT TAAAATTTTA TCAAGATCAA TACCATTCCT    2220

TATTTAATGT GTTTTTCTAG TTCTTTTTGG TATTTGCTAT TGGATTCCAA TTTTTCTTTT    2280

TGCCATTTTT TAAAAACCTC GTTATATTCT TTTGTTGTAA CAATATCTTT TTGCAATTTC    2340

ATTCCTTTAA AGATATATGG ATCCCCCTTA ATACCAACTT GTGAGTATGG TTTTGAGAAT    2400

GGTACTACGT TACTTACAAC TGGAGAACCA CCAGATGAAG CTGTTGGCAT CAATAATGAA    2460

CTATCTGTCG ACCAAGCTTG AGCTTTGGCA TATTTTTCAT ATCTTTTCTC TAGGTCAGTG    2520

GTCTCAGAAA CAGCATCTTC TAACAATTTC TTATATTTAT CCAAACCAGG TTTAGCTACA    2580

ACATCCTTAT CTTTTCCTTT CGTAATACCA AGGTGTTTCA TGGCAGAACC AGATTTTGGA    2640

TCTATAATAT TCAAGTGAGA CGCTGGATCT TGATAGCTTG GAGCCCATCC TGTACTGTTC    2700

AAATCATAGT CTTTTTGAGA AGGAGCAACA TTGCCGTATT TATCATTTTC CATCAAACCA    2760

TCAATAACAT TTCCAATAAC GTCTGTCCTC GATGTTCGAG TCGCTATACT GTAGCCCAAT    2820

GATGCTGGAT CTACTGCATA GACATAAGAA AATGTTGTCG GTGCATCTGC TTCTTTATCA    2880

GTTTTTCCAC AAGCCACTAA AATAGCTGAC GTGCTCAGGA CCACTCCTGC TGTTAAGAGC    2940

CACTTTTTCT ATTTCATAAA GAATCTCCTT TGGTTTATTT TAATCTACTT TTACAATCCA    3000

ACCTTCTGGC GCTTCAATAT CGCCAAACTG AATACCCGTC AATTCATTAT ATAATTTACG    3060

CGTCACAGGA CCTACTTCTG TTTCACTATA GAATACATGG AAATCATCAC CATGTTGAAT    3120

ACCTCCAATT GGAGAAATAA CCGCTGCTGT ACCACAGGCA CCTGCCTCTA CAAAACGGTC    3180

AAGATTATCA ATTGGAACAT CACCCTCAAT AGGAGTTAAT CCCAAGCGAT GTTCTGCCAA    3240

ATAAAGCAAG GAATACTTGG TAATAGATGG CAAGATAGAT GGACTCAATG GTGTTACAAA    3300

TTCATTATCA GCTGTAATTC CAAAGAAGTT AGCTGATCCG ACTTCTTCAA TCTTTGTATG    3360
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                                      1110
AGTTGATGGG TCCAGATAGA TAACATCTGA GAAATGACGT GACTTGGCCA TTTTTCCTGG      3420

TAAGAGACTT GCAGCATAGT TTCCACCAAC CTTAGCCGCA CCTGTACCAT TTGGTGCTGC      3480

ACGGTCGTAC TCATCCTGAA TCAAGAAGTT GGTTGGGACC AAACCACCTT TAAAGTAATT      3540

TCCAACTGGC ATAGCAAAGA TGGTGAAAAT GTACTCTTCT GCCGGTTTTA CCCCGATAAT      3600

ATCTCCGACA CCAATCAAAA GAGGGCGAAG ATATAAGGTT CCACCTGTTC CGTATGGTGG      3660

TACGTATTCT TCATTCGCAC GGACAACTGC TTTACAAGCT CTACAAACA TGTCTGTCGG       3720

AACTTGTGGC ATCAAGAGAC GGTCACATGT ACGTTGCAGA CGTTTAGCAT TTTCATCAGG     3780

ACGGAACAGT TGAACACTGC CATCCTTAGT ACGATAAGCT TTCAAACCTT CAAATGCTTG      3840

TTGTCCATAG TGAAGACTTG GAGAAGACTC TGAAATATGC AAAGTTGCAT CCTCTGTAAG      3900

CTCTCCTTGA TCCCATTGTC CATTTTTGAA ATGAGCAAGA TAGCGATAAG GTAATTTCAT      3960

ATAGGAAAAA CCGAGGTTTT CCGG                                             3984
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(2) INFORMATION FOR SEQ ID NO: 177:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8703 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 177:

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TATCTAATTA TTGGTTTTTA TCGCTGACCT TGGCTATTGT TGGGGTTGTT TTACCCTTGT        60

TGCCTACAAC ACCTTTCCTT TTGTTGTCTA TTGCTTGTTT CTCCAGAAGT TCCAAGCGAT       120

TCGAAGATTG GCTTTATCAT ACCAAGCTCT ATCAAGCATA TGTAGCTGAT TTTCGTGAGA       180

CCAAGTCTAT TGCGCGTGAA CGAAAGAAAA AAATCATCGT CTCTATCTAC GTCTTGATGG       240

GAATTTCTAT TTATTTTGCA CCTCTTTTAC CAGTCAAAAT CGGTCTGGGT GCTTTGACCA       300

TCTTTATTAC TTATTATCTC TTCAAGGTCA TTCCAGACAA AGAATAGTTA AAACAGTAGT       360

TATTTGCCTT GATAAAATTG AAAGCATATT CATAACAATA TGATATAATA AAATTGAAGT       420

AATATTCAAG GAGAATCAAA TGATTTACGA ATTTTGTGCT GAAAATGTGA CTTTACTTGA      480

AAAAGCGATG CAGGCTGGAG CTCGTCGGAT TGAACTCTGT GATAATCTAG CAGTTGGTGG       540

GACAACACCC AGCTATGGAG TGACTAAGGC AGCGGTTGAA CTGGCAGCTA ACTACGATAC       600

AACCATCATG ACCATGATTC GGCCACGTGG TGGTGACTTT GTCTATAATG ACCTAGAAAT       660

TGCTATCATG CTAGAAGACA TTCGTTTGAC TGCTCAGGCT GGAAGTCAAG GGGTTGTATT       720

TGGAGCTTTA ACTGCTGATA AAAAGTTGGA TAAGCCTAAT CTGGAAAAGT TAATTGCTGC       780
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ATCAAAAGGA ATGGAAATTG TCTTTCACAT GGCCTTTGAT GAACTAAGTG ATGAAGATCA      840

AGCGGAAGCT ATTGACTGGC TCAGTCAAGC CGGTGTCACT CGTATCCTAA CTCGTGCTGG      900

TGTGTCTGGC GACTCCTTAG AAAAACGTTT TGTTCACTAT CACAGAATTT TGGAGTACGC      960

TAAAGGTAAA ATTGAAATTC TACCAGGTGG GGGGATTGAC CTTGAAAACC GTCAAACCTT     1020

TATCGACCAG GTGGGGGTAA CACAATTGCA TGGTACTAAG GTTGTTTTTT AAAAAATAGA     1080

AAGGAACTGC TAGCTTTGGG TAGCAGTTTT CACTTATGTT TGAAATTTTT AAATCCTATC     1140

AATTTAATCA AGAAAAGGCT CATGATTATG GTTTTATAGA AAATAGCGAA GTCTGGACAT     1200

ATAGTTGCCA GATTTTGCAA GGTGACTTTG TCATGACTGT GTCCATCACT GCTGATAATG     1260

TGAACTTTCA AGTCTTTGAC CAAGAGACTG GTGACCTCTA TCCTCACGTT TATATGGAAA     1320

GCATGAGGGG AAGTTTTGTC GGAAATGTCC GTGAGGCTTG TCTGGAGATT CTTTACCAGA     1380

TTCGGAAGGC TTGTTTTGAT GTGCAAGATT TTATCTGTCA TCAGACTAAG CGTATCATGA     1440

CTCAAGTTCA GGAAAAGTAT GGAAACCAGT TGGAGTATCT GTGGGAAAAA TCGCCTGATA     1500

CAGCTGTATT GCGCCATGAA GGCAATCAAA AGTGGTATGC CGTCTTGATG AAAATCTCTT     1560

GGAATAAGCT GGAAAAGGGC AGAGAAGGAC AAGTGGAAGC AGTCAACCTC AAGCATGACC     1620

AAGTAGCTAA TTTGCTTTCA CAAAAGGGGA TTTATCCAGC CTTCCATATG AGCAAGCGCT     1680

ACTGGATTAG TGTGTCCCTT GATGATACTT TATCAGATGA AGAAGTACTG GAATTGATAG     1740

AAAAAAGTTG GAACTTAACC TCTAAAAAAT GAAATATTTT AATAATTTTC ATGAACTTTC     1800

AATTAGCTAA ATATTCTTTA CTGAAGAGAT TTTTAGAAAA TATAGGATTT ACCACACTAG     1860

AGGAATATGG TGCCATCTTC AAATACCTGA TTGAGAATGT CAAGACGGAT CGTCAGATCA     1920

TCTATTCGCC TCACTGTCAT GATGACCTCG GAATGGCAGT GGCAAATAGC CTTGCTGCTG     1980

TCAAGAATGG TGCAGGACGT GTTGAAGGGA CTATCAATGG TATTAGGGAG CGAGCTGAAA     2040

ATGCTGCTTT GGAAGAAATT GCAGTGGCTC TCAATATTCG CCAAGATTAC TACCAAGTAG     2100

AAACCAGTAT TGTCCTAAAT GAGACCATCA ATACGTCAGA AATGGTTTCT CGCTTCTCTG     2160

GTATTCCAGT TCCTAAAAAC AAAGCCGTCG TTGGTGGCAA TACCTTCTCC CACGAATCTG     2220

GTATTCACCA AGATGGAGTC CTTAAAAATC CTCTCACTTA TGAGATCATC ACACCTGAAT     2280

TGGTTGGTGT TAAGATTCTG CTTGGAAAAT TATCTGGTCG CCATGCTTTT GTTGAGAAAC     2340

TGAGAGAATT GGCCCTAGAT TTTACAGAAG AGGATATCAA ACCACTCTTT GCTAAGTTCA     2400

AGGCACTGGT CGATAAGAAG CAAGAAATCA CAGATGCAGA TATTCGAGCT TTGGTAGCTG     2460

GAACCATGGT TGAAAATCCA GAAGGCTTCC ACTTTGATGA TTTACAACTT CAAACTCATG     2520
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1112

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CAGATAATGA CATTGAAGCG CTCGTTAGCC TAGCCAATAT GGATGGTGAG AAAGTCGAAT    2580

TTAATGCGAC AGGGCAAGGT TCCGTTGAAG CAATCTTTAA TGCTATCGAT AAGTTCTTTA    2640

ACCAATCTGT TCGTTTGGTG TCCTACACTA TCGATGCGGT AACAGATGGA ATCGATACCC    2700

AGGATCGGGT TTTGGTCACT GTTGAAAACA GAGATACAGA AACCATCTTT AATGCAGCAG    2760

GGCTTGATTT TGATGTGTTG AAGGCTTCTG CTATTGTCTA TATAAACGCT AATACCTTTG    2820

TTCAAAAAGA GAATGCAGGT GAGATGGGAC GCAGTGTTTC TTACCACGAT ATGCCTAGTG    2880

TGTAAAGGAG AAGGCTATGG CAAAGAAAAT AGTAGCTCTA GCAGGAGACG GAATTGGCCC    2940

AGAAATCATG GAGGTTGGTT TAGAAGTTCT GGAGGCTCTA GCTGAAAAAA CAGGTTTTGA    3000

CTATGAGATT GACAGACGAC CGTTCGGAGG TGCAGATATT GATGCAGCAT GACCTCCCTT    3060

ACCTGATGAA ACCCTTAAGG CAAGTAGGGA AGCAGATGCT ATCCTACTAG TAGCTATCGG    3120

TAGTCCTCAG TATGATGGAG CAGTGGTTCG CCCTGAACAA GGCCTGATGG CTCTCCGTAA    3180

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AGGCGGGATT TACTTTGGAT ATCATATTCT TGAAGAGCGC AATGCGCGTG ATATCAACGA    3360

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CAGAAAAATC GTTACTAGTA TCGATAAGCA AAATGTTCTA GCGACCTCAA AACTCTGGCG    3480

GAAAGTAGCT GAGGAAGTCG CACAGGATTT CCCAGATGTA ACCTTGGAAC ATCAGCTGGT    3540

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ATAGTTTGGT TTCTTGGGAT GGTGACCACA CTAGTAGCCT TATATTTTAT TTGGAGGTAA    4200

TGGATGGCAG GGTCTTCGAG GGAATACGCT GCTTGGGCTC TAGCGGACTA TGGTTTTAAG    4260

GTCGTGATTG CAGGATCTTT CGGTGACATT CATTACAATA ATGAACTCAA TAATGGCATG .   4320
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1113

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TTGCCAATCG TTCAGCCTAG AGAGGTTAGA GAGAAACTAG CCCAGCTAAA ACCAACCGAC      4380

CAGGTAACTG TGGACTTGGA ACAACAAAAA ATCATCTCAC CAGTTGAAGA ATTCACCTTC      4440

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TTGCAGTATG AAGAGTTGAT TGCTGCTTAT GAAAAACAAC GACCAGCCTA CTGGCAGGAT      4560

TAGAAAAAAT AGAAAAGGAG ATATAGTAAA CTGAAATAAG ATGTAAACAA ATGAATTGGA      4620

GCTTAACATC CATTTCCAGC AATTTTTTAG AAACTACAGT GGACTATTCT GGATTCAACA      4680

CATTATAAAA TTATGACAAA ACACATTCAC AAGAAGGCTA CGACATTTTA AAAGGTGAGG      4740

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GCGGTAGCAT GGATGAACTT TGCGCTTTAG CGCAACTCAA CCCAGAAATT GAAGCATTCT      4920

ACTAAAAACA TTGGGATGAA GATATTCTTC TTGGTTGTAT CCTTCCTTGG AAACCAGAAG      4980

CCTTTGAAAA ACTCAAAGCA TACGGGGATG GCCGTGAAGA ACTTATTACT GATGTACGTG      5040

GTACTAGCTG TTTTGTTATC AAGTTTGGAA AAGCAGGTGA ACAATTGGCT GCCAAGCTTT      5100

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ATAAGGCAAC TGTTGGTGAA AAGTTTAATG ATAAATTAAA AGAAGAGTTT CTCCAGGAAT      5640

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AAAATAAGTC TTTATGCTAC GCTCTTGAGA AGGGAAAATA CAAAAATCTA TTTCTTGGAA      5760

TTTCTGGTGG CTCAGCTTCA AAATTTGGTA TTTATTGGAA TAAAAAAACA AACAAATATA      5820

AAGATCAAGC TAATAATGAG ATTTCAGAGT TGGATCAGCG ATTTTCAAAA TTAAAATCAG      5880

ATTTGTATGA AATTATCAAA GAAGGTATTC GTTTTAACTT TGAAAATCCT ATTTTTGATA      5940

TGAAAAGATC AACAAATGAA TTTATTGGTC GTTCTGCTAT GGTGACAAAA TTACTTTGTA      6000

TCTATACTGA GGGAGATCCT TTCTTTGGTG TAAATATTAA TAGTCAGAAA GAATTTTGGA      6060
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1114

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AACTGGTGTC CAAAACTTAT CCTGAGTTGG AGCCATCGAA ATTAGGAACT ATGCTTTTTG    6180

AGTATTCTAA GCTTTTTATG GAAAATAAGG AAGACAATAG TACAATGGAT TCATCAAACA    6240

ATTTTCGTCA TCAATTAACT CAATCTCTAT TAAAGTCTCC AAACCTCATC CTCCGCGGTG    6300

CTCCTGGCAC GGGAAAAACT TATCTTGCTA AAGAAATTGC TAAAGAATTA ACGGATGGCA    6360

ACGAAGATCA AATCGGATTT GTACAATTTC ACCCATCATA TGATTATACG GATTTTGTAG    6420

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ATTATAATAA GCAAGAATAC TACAAAAGTG GTGGAAAAAC TGTCCTAGAA ACATTGAGAA    6780

AGAGATTTGG TTTGAAAGAC TATGTTTCCC CAACAGAAAT TGATACTGAT AAGAATTTTG    6840

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CCTCTTTTAG ACAGAACCTT GGAAAGTCTA TCCCAAGATG AACGTATTTT CATTTTTCCA    7560

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ATTTCCTCAC GATTTTCTGA TGAGAGTAAT GACCACTTTT TGCATTATCT CTTAAACAAG    7740

GTTCTTCATA TCAATCTCAC TAGTTTAGAT GTTGCTTTGT CTCGTGAAGA GAGGCTTTAT    7800

CAACTTTTGG TGTATCTCTT TCCCAAGTAT CTACAAGCTG CTATTCGAAA AGGTCTTTAT    7860
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1115

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AACCATCTCA AGAAAAATCT TCCTTTCACG GGAAATATTG CCTACGCAAC GAGAGAGTTC      7980

ACCTATGATA ATCCCCTCAT GCAGTTGGTC CGTCACACTA TTGAATACAT TAAGAATCAG      8040

AAAAGCATTG GTCAAGGGGT ACTAGATAAT CTCTCAACTA GTCGTGAAAA CGTATCTGAA      8100

ATCGTGCGTG TAACGCCCTC TTATAAACTA GCTGATCGTG CTAAGATTAT TCGGGGAAAT      8160

CAATCTAAAC CTATACGTCA TGCATACTTT CACGAGTACA GAAACTTACA AGAACTTTGT      8220

CTGATGATCC TAAACCAAGA AAAGCACGGT TTAGGGTATC AAGATCAAAA AATCTATGGT      8280

ATTCTCTTTG ATGTTGCCTG GCTTTGGGAA GAGTATGTTT ACACCTTGTT GCCAAAAGGT      8340

TTTGTACATC CCAGAAATAA GGATAAGACG GATGGAATTT CAGTATTTTC TGTTGGGAAA      8400

CGAAAAGTAT ATCCAGATTT TTATGACAGA GAACGAAAGA TTGTTCTAGA TGCAAAAATAT     8460

AAAAAACTGG AATTGACTGA AAAAGGAATC AACCGTGAGG ACTTATTCCA GCTGATTTCC      8520

TATTCTTATA TTTTAAAAGC TGAGAAGGCT GGACTGATTT TTCCTAGTAT GGAGCAGTCA      8580

GTAAATAGTG AAATAGGAAA AGTAGCTGGC TATGGAGCTC AATTGAAGAA GTGGTCTATT      8640

CGAATCCCTC AGAATGCCTC ATTCTATAGT ACATTTTGTA AAATGATGGA AAATTCAGAA      8700

GAG                                                                    8703
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(2) INFORMATION FOR SEQ ID NO: 178:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4854 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 178:

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CATCACCAGT TTTAGATGGC TTTAACAGTG AAATTATTGC TTTTAATCTT TCTTGTTCGC        60

CTAATTTAGA ACAAGTACAA ACAATGTTGG AACAGGCATT CAAAGAGAAG CACTACGAGA       120

ATACGATTCT CCATAGTGAC CAAGGCTGGC AATATCAACA CGATTCTTAT CATCGGTTCC       180

TAGAGAGTAA GGGAATTCAA GCATCCATGT CACGTAAGGG CAACAGCCAA GACAACGGTA       240

GGATGGAATC TTTCTTTGGC ATTTTAAAAT CCGAAATGTT TTATGGCTAT GAGAAAACAT       300

TTAAATCACT TAACCAATTG GAACAAGCCA TTATAGACTA TATTGATTAT TACAACAATA       360

AGAAAATTAA GATAAAACTA AAAGGACTTA GTCCTGTGCA GTACAGAACT AAATCCTTTG       420

GATAAATTAT TTGTCTAACT GTTTGGGGGC AGTACACAAG AAAGCGCTTT AAAACCAGTA       480
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1116

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GACCTTTTCA TAAGGTTCGC TTGATGTACC AAGATGAGGC TGGTTTCGGT AGAATCAGTA      540

AACTGGGATC TTGTTGGTCT CCAATAGGAG TAGGTCCACA TGTCCATAGT CACTATATAC      600

GAGAATTTCG CTATTGTTAT GGAGCTGTTG ATGCCCATAC AGGCGAATCA TTTTTCTTAA      660

TAGCTGGTGG ATGTAATACT GAGTGGATGA ACGCCTTTTT AGAAGAGCTT TCACAAGCTT      720

ATCCAGATGA TTATCTTTTA CTCGTTATGG ACAATGCTAT ATGGCATAAA TCAAGTACCT      780

TAAAGATTCC GACTAATATT GGTTTTACCT TTATTCCTCC ATACACACCA GAGATGAACC      840

CATTGAACAA GTGTGGAAAG AGATTCGTAA ACGTGGATTT AAGAATAAAG CCTTTCGAAC      900

TTTGGAAGAT GTCATGAATC AACTCCAAGA TGTCATACAA GGATTGGAGA AGGAGGTGAT      960

AAAGTCCATC GTTAATCGGA GATGGACTAG AATGCTTTTT GAAAACAGAT GAGTATAAAA     1020

TTGAATTGCT TATAAAAAAG CTCCATACAC TGGATGTGTA TAGAGCAATG GGGCTTTATT     1080

TGATATAGAG TTCTTGGTTT TTTAGGACAA TTTCTCGGAT ACTTGCAAAC TTTTTAAGTT     1140

TTTTGATTTC TTCTGGATGA GTGACGAGAG TGATAACATA ACCTTCCTTG CCCATACGAC     1200

CAGTACGGCC AGCACGGTGT GTGTAGGTTT CGCTATCTCT AGGAATATCA AAGTTTACGA     1260

CACATTCTAG GCTATCGATA TCAATTCCAC GAGCCAAAAG GTCAGTTGCA AGAAGCAGGG     1320

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CTTGGAAACC GAGTTGGTCA CTCAGTTCTT GCCATTCAGT CGGTAGTTTG GTTTTCATTT     2160

TTCTGCCTCA AATCTAATGC CAGCAGTCTG GCGCATGGTA TATAGTAGCT CATGAACAGA     2220

GCCTGCATCA TACAGCCAAG TTTGGTAGAG ATTCAGATCT GGTTGCTGGA TCATGTGTGC     2280
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1117

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AAATGCAGCG ACTTCCTCAG TCATCGTATG AGGAGCCTGT TGGATAGGAA GCTGGACTTG    2340

ATTTCCTTGG TGGTCGGTAA AAATAGCTGA GCGAATATGC TCAATCGTGT TGAGAGTCAA    2400

GGTTCCATCT GTTGTATAAA TCTCGCAAGG AAGATTGGAA GTGATGTTTT TTCCAGCCTT    2460

GATGTGAACT TGATAGTCTG GGTAGAAGAG GATACCATCT CCATTTAGGT CAATGCTATT    2520

GTCAAGCTGT TGAGCATGGT AAGTCGCGTC ATTGGCTTTT CCAAAAAGAC GAACAGCAGC    2580

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ATTTGGTGTT TGTCCAGCCA ACAAGTCAGG CATCTTGGAA GAGTATTTGG CATAGTTGAA    2700

ATCTGCTCCT AACACTTGCT TATCTGCTAA AAAGTTTTTG ATAGTAGTAA AGGCTTTCTC    2760

GTGGTAATTA CGAGCTGCTT CAAAGATAAA ACAGTTATTT TTTTCAGCTG TTTGAATCAA    2820

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AGACAAGGCA GCTTTTGCCT GAGCAAAATG TAAGGAGTTT GGACTGGCGA TATAGACTAA    2940

ATCAAAAGAA GATTTGAAGA AGACTTCTAA TTGATCGAAT AGTTGGATAT TCTGATAGCG    3000

AGAAGCAAAG GTTGCTGCAG TTTCTAGTTT TCTAGAATAG ATTGCGACCA GTTGGTATTC    3060

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AGACGGGACT ATCCAACAGA GAGGAGAAAA TTTCAAATAA GCTATTAGCT TTCTTTTCCG    3240

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ATAATCTCTA CAGATACGGA TGTTGGAGTT GATGTAAGAT GCTTTGGCTT GCTAGAGGAA    3900

TTGTGGATTG CCAAATTGTA TCATTGAAAT TATTGCTCAA ATTTGTTATG ATATAAATAT    3960

GAATAAAAGT AGACTAGGAC GTGGCAGACA CGGGAAAACG AGACATGTAT TATTGGCTTT    4020
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1118

GATTGGTATT TTAGCAATTT CTATTTGCCT ATTAGGCGGA TTTATTGCTT TTAAGATCTA   4080

CCAGCAAAAA AGTTTTGAGC AAAAGATTGA ATCGCTCAAA AAAGAGAAAG ATGATCAATT   4140

GAGTGAGGGA AATCAGAAGG AGCATTTTCG TCAGGGGCAA GCCGAAGTGA TTGCCTATTA   4200

TCCTCTCCAA GGGGAGAAAG TGATTTCCTC TGTTAGGGAG CTGATAAATC AAGATGTTAA   4260

GGACAAGCTA GAAAGTAAGG ACAATCTTGT TTTCTACTAT ACAGAGCAAG AAGAGTCAGG   4320

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CTTTGATAAG AAACATCAAA AAGTTGTCGC TCTAACCTTT GATGATGGTC CAAATCCAGC   4800

AACGACCCCG CAGGTATTAG AGACCCTAGC TAAATATGAT ATTACAAGCG GGGT   4854

(2) INFORMATION FOR SEQ ID NO: 179:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2186 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 179:

TAAACAGGTG TTAGGTGCTC TAAACTATTA AAATTCTAAG GAAATAAGGC TACTTTTTCT   60

GGGTCTTGTT CATAGTAGGT GTGGTTCTTT TTTTCGAGTG TAGCCCATAG CTTTGAGCGC   120

ATAGTGGATG GTAGTTGGAT GACAGCCAAA TTCAGAAGCT ATTTCAGTCA AATAAGCATC   180

TGGATTGTCA GTAAGATAGT TTTTAAGTCT ATCTCTATCA ACTTTTCTTG GTTTTGTTCC   240

TTTTACTTGG TGGTTTAGCT CTCCTGTTTT CTCTTTTAGC TTTAACCAGC CATAAATGGT   300

ATTACGTGAG ATTTGGAAAA CGTGTGATGC TTCTGTTATA CTACCTGTTC GCTCACAATA   360

AGAGAGAACT TTTTTACGAA AATCTATTGA ATATGCCATA GAAGATTAT ACCACATTGT   420

GTACTATTTT TGGTTCATTT TACTATATTT CTAAACACTT AGAAATAATA AAACAAATTA   480

AATATTATTT CTAAATATTT GAAAATAACA TCTATTTGTA TTATACTATC TTTGAGGTAA   540

CTATTATGAA CTATATCAAA AGACCACATT ATTTAGATTT TTTAAGAAAA CATCGTGACC   600

1119

GACCAATCAT CAAAGTTGTG AGTGGAGTTA GACGAGCTGG TAAATCTGTG CTTTTTCAAC　　660

TCTATAAAGA GGAGTTACTA GCAACTGGGG TAGACGAGGA TCAGATTATA TTCATCAATT　　720

TCGAAGATTT GAGTTACTAT GATCTGCGAC ATTTTCAAAC ATTATTCGCT TATATAAAAG　　780

ATCAATTAGT TAGCAAGAAA ACATACTATA TCTTTTTAGA TGAAATTCAA TATGTTGAAA　　840

AATTTGAACT GGTAGCAGAT AGTCTATTCA TCTTAGCAAA TGTAGACCTC TATTTGACTG　　900

GATCTAACGC CTACTTTATG AGTAGCCAAT TAGCAACAAA CTTGACTGGT CGGTATGTTG　　960

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AAACATCATC TTACGATGAA AAAATTGACT ATCTCAGAGG AATATATAAC TCCATACTGT　　1140

TAAATGATAT TGTCACTAGA TTGGGAAAAC CAAATCCTAC TATTATTGAG CGCATTGTCC　　1200

GAACCCTTCT CAGTAGTACA GGTAGCTTAA TATCAACAAA TAAGATTCGC AATACCCTAG　　1260

TCAGCCAAAA TGTTTCAATA TCCCATAATA CTTTGGAAAA TTATTTGACA ACTTTGACAG　　1320

ATAGTTTACT TTTTTATTCC GTTCCACGTT TTGATGTAAA AGGTAGAGCA TTATTGCAAC　　1380

GTTTAGAAAA ATATTATCCC GTTGATTTAG GTTTACGACA TCTCTTATTA CCAGACCAGA　　1440

AAGAAGACAT TAGGCATATC TTGGAAAATA TGGTATATTT GGAATTGAGA CGTAGATATT　　1500

CACAAGTATA TGTTGGTAAT TTAGATAAGT ATGAGGTTGA TTTTGTTGTT GTAACTGATC　　1560

TTGGCCACTA CGCTTATTAT CAGGTCAGTG AAACAACACT TGCTCCAGAA ACACTAGAAA　　1620

GAGAACTTAG ACCACTAGAA GCCATTAAAG ATCAATTCCC TAAATATCTA TTAACAATGG　　1680

ATACGATTCA GCCAACAGCC AATTACAATG GAATCGAGAA GAAAAGCATT ATAGATTGGT　　1740

TACTAGAAAA ATAGATAAAT ATAAATCATA CAGCTAATTA GATTTGCAAC AGTCTGTTAT　　1800

CAATGATTCT ACCCAAATCC TAACAAGATA TAGTGAATTT CGAATACGCT ATATAATACG　　1860

GACACTTGAA AATAGAAATT GGGGATGAAA GGGGATCTAT AATTTCTGGA AGTACTATCA　　1920

AAAATTAATA TCATAGTCTT ATTAGAGAAT AGCATCACCC ACTTTCTCAA ATAAGATTAA　　1980

ATTGTAACTG AATTATAATG AAAAAGAGAC TGAGCAATCA GTCTTTAAAA TCAGAAAAGC　　2040

GCATAGTATC AGGTATTGAA CAACCTTGAT AATATGCGTT TTATTATGGA AATATTTGCT　　2100

TCATTTCTC CTGAAATAGA GCTTTTGCTA TCCTATTTTT CTCTATTTCT AATGATTTAC　　2160

TTCAACTTCT TACCTCTTGG GAAAAA　　2186

(2) INFORMATION FOR SEQ ID NO: 180:

　　　　(i) SEQUENCE CHARACTERISTICS:
　　　　　　(A) LENGTH: 3236 base pairs

1120

(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 180:

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GTCACACGTT TGACTTCACG TATTTCATAA GTATAAACTT TATTTTTATC GGTTAGATAA      60

ATCTTCATGC CATTTTTAGC ATTATCTAAA GGAGAAAATA ACATTTTATT AGCATTATCA     120

ACACCAAAGA TATGGTGACT AGCTAGACTA TAATTTCCTT CTCCCATTAC TTGCTCGCGT     180

TTCATTGTAC CAGCTCCGTA GAAGAGATTA ACATTATCAA GTCCTTTAAA AATCGGCAAA     240

TTCATTTCCA ATTCAGGAAT TGCAATTCCC CCAATAACTG GTAATTTTTG AGCATCCCAT     300

TGAGAAGTTA GAACAGCTTC CGAAGAGATA GCTTTGACAG AATCAAAGTC AAAATTGCCT     360

TCTGTATCCT GATTTTCTTC TAATTTTTCT TTTGATACCT GGCTAACTTG ATACTTATTG     420

GTATTCCAGA CTATGAAAAT ATTTCGAATT TGAGTATTAA AAATCAAAGC CAGTGACAGT     480

AATATCAGAA ATCCTGCTAG GATATTTGTC AGCAGATTTT TTCGCTTGTT TTTCTTTTTA     540

TTATTTTTTT GAGACATTAT GCTTCACCTT CTGTTTCGTT TTCTGTCCCA ACTTCTTCTT     600

TTTCTGCCAC CGCAACCGTT GTGAAAGTCA CTATCTGAGC ATCTTGATCC AGGCGCATTA     660

CTTTAACTCC CATAGTTGCA CGTCCTGTTT GTGAAATATT GGCAAGATTG GTTCGAATCA     720

TGACACCTGT ATCAGTGATA ATCATCAAAT CCTCATCCCC TTGAACAGTC ATAAGACCGG     780

CCAGCAAGCC ATTTTTTTCG GTAATTTTAG CTGTCTGCAT TCCCTTACCA CCACGACCTT     840

TTGTTGGGTA TTCAGTAGCG ACTGTACGCT TACCATATCC TTTTTCTGTG ATAATAAGAA     900

CCTCATCTTG ATCAGTAATC AAGCTGGCAC CAACAACTGT GTCTCCTTCA CGAAGGTTAA     960

CACCTTTCAC ACCAGTGGCG ATACGGCTCA TACCACGAAC GGCTGATTGA TTAAAGCGAA    1020

CTGCATAACC AAACTTGGTA CCAATGATAA TATCCATATC TCCTTCTGCC AACAAGACAT    1080

TGATTAACTC ATCTTCATCC TTTAAATTCA GCGCTTTGAG ACCATTTTGA CGAATATTGG    1140

CAAACTCCTT AACACTGGTT CTCTTCACAA TACCGTGACG GGTTGTAAAG AAGAGATAAG    1200

CATCATCACT GCGATCAGAC TCAACATTGA TAACCGTCTG AATACTTTCG TCTTCATCCA    1260

ATTTCAAGAG ATTGACTACT GGTAGCCCTT TGGCAGTCCG ACCATACTCA GGAATTTCAT    1320

AACCTTTAAG ACGATAGACA CGTCCCTTGT TTGTGAAGAA GAGCAGATGA TCATGGGTGC    1380

TAGTTGACAC TAACTCACGA ACAAAGTCAT CATCTTTCAC TCCCGTTCCT TGGACACCAC    1440

GACCCCCACG TTTTTGAGCA GTGAACTCGT CCTGATCCAA ACGCTTAATG TAGCCTCTGT    1500

TAGAAAGGGT AATCAAGACA TCCGATTCTT CAATCAAGTC CTCATCCTCG AGACTCAAGA    1560
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1121

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CCTGTCCAAT CATCAACTCT GTACGGCGCT TATCAGAAAA TTTACGTTTA ACTTCATCCA     1620

ATTCGTCTTT GATAATTTGA GAAACACGTT CAGGCTTAGC AAGAATATCT GCTAAATCCG     1680

CAATCAGAGC CAAGAGGTCA TCATACTCAG ATTGAATCTT ATCGCGTTCC AAACCTGTCA     1740

AACGACGAAG ACGCATATCA AGGATAGCTT GACTTTGACG TTCAGAAAGC TTAAACTTGC     1800

TCATCAACTC AGCTTGAGcT TCCGCATcCG tTTCACTAGC ACGGATGATA CGAATCAyTC     1860

GTCGATATGG TCTAGCGCAA TCAAGAGACC TTCTAAGATA TGAGCGCGCG CTTCCGCTTT     1920

TTCCTTATCA AAACGTGTAC GACGAACAAC CACTTCTTTT TGGTGCTCGA TATAAGCATC     1980

CAAAATCTGA CGAAGAGACA AAATTTTCGG TATACCATTT TGGATAGCGA GCATATTGAA     2040

ACCAAAATTG GTTTGCATTT GGGTCATTTT GAAGAGGTTA TTGAGAATAA CATTGGCTGA     2100

GGCGTCGCGC TTGACTTCAA TAACAAATCG AACACCTTCA CGGTTTGACT CATCACGTAC     2160

TGCTGTGATA CCCTCAATGC GTTTTTCCTG AACCAAGCGA ACAATATGCT CATGCACCTT     2220

GGTTTTATTG ACCATGTAAG GAAATTCTGT TACAACGATA CGCTCACGAC CAGTCTTAGT     2280

CGTTTCAATC TCTGTACGAG AACGTAGGAC AATCGAACCT TTACCTGTTT CATAAGCCTT     2340

ATGGATACCT GATTTCCCCA TGACAAGAGC ACCAGTTGGA AAATCTGGTC CAGGCAAGAC     2400

TTCCATCAAG TCCTTGGTAG TCACTTCAGG ATTATCCATG ACCAACTTCA CTGCATCAAT     2460

gGTTTCACCC AGATTATGAG GTGGAATATT GGTTGCCATC CCAACCGCGA TACCAGTTGC     2520

TCCATTAACC AAAAGGTTTG GAAAACGCGC TGGCAAGACC AAGGGTTCCC GTTCATTGGC     2580

ATCATAGTTA TCAACGAAAT CAACTGTATT TTTGTTGATA TCACGAAGCA TTTCCAGAGC     2640

AATCTTGCTC ATACGTGCCT CGGTATAACG TTGAGCGGCA GCACTATCTC CATCCATGGA     2700

ACCAAAATTC CCATGACCAT CTACAAGCAT GTAACGGTAG CTCCACCATT GAGCCATACG     2760

GACCATGGCT TCATAAATAG AGGAATCCCC GTGTGGGTGA TATTTACCCA TGACATCCCC     2820

TGTAATACGA GCAGATTTTT TATGGGGTTT GTCTGGGGTC ACACCCAATT CATTCATTCC     2880

GTAGAGAATG CGACGGTGAA CAGGTTTTAA GCCATCTCGA ACATCAGGAA GAGCTCGCGC     2940

TACGATAACA CTCATGGCGT AGTCGATAAA ACTTGCCTTC ATCTCCTTTG TCAGATTGAC     3000

ATTCACTAAA TTTTTATCCT GCATTAATAA ATGCCTCATT TCACAATTAG TAAGTAACAA     3060

CATTATACCA TAAATTCCCA TCTATTTCAG CCTCTAAACC ACTAAAACGT TTACATCGAG     3120

AACTATAAGG CATATTCGTG ACAAAGTTTT TTAAAAGTGA TAGAATGAAG TTGTCTAGGG     3180

AAAACCCCTA ATAGAATAAG GAGATGGTTA nACAATGACT CTGACTAACA CACAAA        3236
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(2) INFORMATION FOR SEQ ID NO: 181:

1122

(i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 8651 base pairs
     (B) TYPE: nucleic acid
     (C) STRANDEDNESS: double
     (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 181:

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AGGTCCTGAA GTATTGGAAC AGGAAGGTCA AGAGTTTTTG GAACATTTCA AAAAACTCTT        60

GGAGTCAGTT GAAGTAGTAG CCATCTCAGG TAGTCTGCCA GCTGGCCTTC CAGTTGATTA       120

CTATGCGAGC TTGGTAGAAC TTGCTAATCA AGCTGGCAAG CATGTAGTCT TGGACTGCTC       180

AGGTGCAGCA CTTCAGGCTG TTCTTGAATC ACCCCATAAA CCAACAGTCA TCAAACCAAA       240

TAATGAAGAA TTGTCTCAGC TTCTTGGAAG AGAAGTTTCT GAGGATTTGG ATGAATTAAA       300

AGAAGTACTT CAAGAACCTT TGTTTGCAGG GATTGAATGG ATTATCGTTT CACTTGGTGC       360

CAACGGTACT TTTGCCAAAC ATGGTGACAC TTTCTACAAG GTAGATATTC CTAGAATTCA       420

GGTGGTAAAT CCTGTTGGAT CTGGAGACTC TACTGTGGCA GGAATTTCTT CAGGACTTCT       480

TCACAAAGAA TCGGATGCAG AATTACTCAT CAAGGCAAAT GTCCTTGGTA TGCTCAATGC       540

TCAAGAAAAA ATGACTGGTC ATGTCAACAT GGCCAACTAT CAAGCTCTAT ATGATCAATT       600

AATAGTAAAA GAGGTATAAA ATGGCTTTAA CAGAACAAAA ACGTGTACGC TTAGAAAAAC       660

TTTCTGATGA AAATGGTATC ATCTCAGCTC TTGCATTTGA CCAACGTGGT GCTTTGAAAC       720

GCCTCATGGT TAAACACCAA ACAGAAGAAC CAACTGTGGC CCAAATGGAA GAACTTAAAG       780

TCTTGGTAGC AGATGAATTG ACTAAATATG CTTCATCTAT GCTTCTTGAC CCTGAGTATG       840

GACTTCCAGC AACTAAAGCT CTTGATGAAA AAGCTGGTCT TCTCCTTGCT TATGAAAAAA       900

CAGGTTATGA CACAACAAGC ACAAAACGCT TGCCAGACTG CTTGGATGTT TGGTCTGCAA       960

AACGTATTAA AGAAGAAGGT GCAGATGCAG TTAAATTCTT GCTTTACTAT GATGTAGATA      1020

GCTCAGACGA ACTCAATCAA GAAAAACAAG CCTACATCGA ACGCATCGGT TCTGAGTGTG      1080

TGGCTGAAGA TATCCCATTC TTCCTTGAAA TCCTTGCTTA CGATGAAAAA ATTGCGGATG      1140

CAGGTTCTGT AGAATACGCT AAAGTAAAAC CACACAAAGT TATCGGCGCT ATGAAAGTCT      1200

TTTCAGACCC ACGCTTTAAC ATTGATGTTT TGAAAGTTGA AGTTCCTGTT AACATTAAAT      1260

ATGTTGAAGc kTCGCTGAAG GTGAAGTAGT TTATACACGT GAAGAAGCAG CAGCCTTCTT      1320

CAAAGCGCAA GATGAAGCAA CGAACTTGCC ATACATCTAC TTGAGTGCTG GTGTATCAGC      1380

TAAACTCTTC CAAGATACTC TTGTATTTGC TCATGAATCA GGTGCGAACT TTAACGGAGT      1440

TCTTTGTGGC CGTGCTACAT GGGCAGGATC AGTTGAAGCT TACATCAAAG ATGGTGAAGC      1500
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1123

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AGCAGCTCGC GAATGGtCGC ACAACTGGAT TTGAAAACAT TGACGAACTC AACAAAGTTC      1560

TTCAAAGAAC AGCAACTTCA TGGAAAGAAC GCGTGTAAGA AAGTCCTCCT AGTTTAGGAA      1620

CATGAATCTA AAAAAATTTA AAAAAAGTTG TATGTAAAGG CTTACAAAAT AACTTACTTG      1680

TGCTATACTT AAATCACAAG TTAATATGAA TTAGAAAGTA ACTATATGAA GTATAATAAA      1740

AATAGGATAT AGTTTATTTT ACGAGCTAGG AAGGAAAAAT ACGGAAACAA TATTGCCAGA      1800

ATAAACTATA TTTAGATGCA CATTTCATTC ATTGTTTTAT AAAAGGAGAA GATAAACGGC      1860

TACTAAAAAG AGTTTTAAAG CGTTAGTTGT AGGACTAGGT ATTGTTTCAA TATTCTTATC      1920

AGCCTTACCT ATGGTTAGTG GTTCTGTATT TGCAGATAGT GCCCTAACTA CAGTAGATAA      1980

AGCAAATGAT ATTGTTTTGA ATGTTGATGG GAATAAATTT TATAATGTTT CGGTTTCAGA      2040

AGATATTGTA AATGCTGGTC AAATTTTGGA AGATTATTTT TATGTAGATA AATTTGGAAA      2100

TATAAATTTA AAAGGCACTC CTGAAGAGTT AGCAAAAAAT ATTGGTATTT CTGTACAAGA      2160

AGCAAGTTTG ATGTATGGAG CTGTAAAAGA GTTACCCAAC GTTTACGAAA GAGGTCCTGT      2220

AGGTTTTCGT TTCAATCTTG GTCCTCAAGT GAGGGGGATG GGTGGCTGGG CTGCTGGAGC      2280

TTTCGCTACT GGATATGCTG ATGGCATTT GAAACAATTT GCGGTTAATC CTGTTACATC      2340

TGGATTTGTT GCTGTAATAA GTGGTGCGAT TGGCTGGGCT GTAAAAACTG CTGTAGAAAA      2400

TTATTGGACA GTTGCTGTAG CTACAGTAGA AGTGCCGTTT GTGAACCTTG TTTACACCAT      2460

AGATTTACCT TAGAGGTTAT TTCTTTATGA ATCATTCTTT TAAAAAAATA ACTGTATTTT      2520

GTTTTATAGT TTCTTGTGTT CTTTGTTTAT TAGACTTAAT GAATTTTAAA AATGTAGCTA      2580

CTTTTTTATT TTTCTGTCTT CCTGTTTTTG TTTTGATTTA CAAAAATAAA TAAAAACAGA      2640

GCCTCTGTTT GATGAATTTT AGAACATAGT TAAGTTTTAA AAAAAGTTGT ATGTAAAGGT      2700

TTACAAAATA ACTTACTTGT GCTATACTTA AATCACAAGT TAATACAAGG TGAGTGTTAC      2760

TAAGTAATAT TAGGCATGAT CACAGGTGAA TTAGAAATCA GCTGATTTTC TAGTTCATTT      2820

GTGGTCATTT TTTGTACTTA TATACCTTTA AGATATAAAA GGAGGTTGAC ATGTATCGAA      2880

TTCTAAATCC AATGAATCAC AATGTCTCGC TTGTCAGAAA TGATAAGGGA GAAGAGGTGA      2940

TTGTAATTGG TAAGGGAATT GCATTCGGAA AGAAGAAGGG GGATTTGATT GCTGAAAATC      3000

AGGTTGAGAA AATCTTTCGG ATGAAGACCG AAGAGTCCAG AGAAAACTTT ATGGCTCTTC      3060

TCAAAGATGT TCCGCTTGAT TTTATCACAG TGACCTATGA AATCATTGAT AAGCTATCAA      3120

AGAAATATCA TTATCCGATT CAAGAGTATC TCTATGTAAC CTTGACAGAT CATATTTACT      3180

GTTCTTATCA AGCTCTAACT CAAGGAAGGT ACAAGGATAG TAATCTGCCA GATATTTCCG      3240
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1124

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CTAAGTATCC TGTCGCTTTT CAAATCGCAA ATGAAGCTTT TGAAATTTAC CGTCAGAAGC     3300

TAGCAGATCA TTTTCCTGAG GACGAAATTA TTCGGATTGC TTATCATTTC ATTAATGCTG     3360

AAGGTGAAAA TGAAGTGGAA CTTGTGGAGT CGATTGATAA GAGGAAAGAA ATTCTCAGGA     3420

ATGTTGAAGA AGTTTTAACG GACTATGCAA TTCAACGAAC TAAAAAGAAT AACCATTTCT     3480

ATGATCGCTT TATGATCCAT TTGAATTATT TCTTGGATTA TTTAGACAGA TCTAGAGATG     3540

ATAACCAATC ACTTCTGGAT ATGGAAGATC ATATTAAACA ATCCTATCCA AAAGCCTTCG     3600

AGATTGGTTC CAAGATCTAT GATGTGATTA CGCAACATAC GGGTCTTGAT TTGTATAAAA     3660

GTGAACGAGT TTATCTAGTT CTACATATCC AACGTTTATT GTCATAAAAA TTTATTTAAA     3720

ACTATATAAG GAGAATTCTA TCATGAATAG AGAAGAAGTA ACATTGTTAG GTTTTGAAAT     3780

CGTAGCCTAT GCTGGCGATG CTCGTTCAAA ACTATTGGAA GCCTTGAAGG CTGCTGAAGC     3840

TGGTGATTTT GAAAAAGCGG ACGCTCTGGT AGAGGAAGCT GGTAGCTGTA TTGCAGAGGC     3900

TCACCACGCG CAAACAAGTC TATTGACTAA GGAAGCTTCA GGTGAGGACT TGGCTTATAG     3960

TGTAACCATG ATGCATGGCC AAGACCACTT AATGACAACT ATCTTGTTAA AAGATTTGAT     4020

GCATCATTTA ATTGAACTCT ACAAGAGAGG AGTTCAATAA TGAATAAACT AATTGCATTT     4080

ATCGAGAAAG GAAAGCCTTT CTTTGAAAAA CTATCTCGTA ATATCTATCT TCGTGCTATT     4140

CGTGATGGTT TCATTGCAGG TATGCCTGTT ATTCTCTTCT CAAGTATCTT TATCTTGATT     4200

GCCTTTGTAC CAAACTCATG GGGCTTTAAA TGGTCTGATG AAGTTGTAGC CTTTCTGATG     4260

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ACTGTAGCCA TCTATAAGGT TTGTGTTAAG AACAACGTCA CTATTCGTAT GCCTGACGAA     4560

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TCTCTTTATG CTCTTGACTT ATTAGCACGT TATTTTGTTG GTTCTAGTGT GGCAGAATCA     4680

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CCAGCTATCG CAGCTATTAC CTATGCCAAT GCCGAAGTTA ACTTGAACCT TCTCCAACAA     4860

GGGATGCATG CAGACAAGAT TCTTACTTCT GGTACACAAA TGTTTATCGT TACCATGGGT     4920

GGTACAGGTG CGACATTGGT CGTTCCATTT ATGTTCATGT GGTTGACAAA ATCGAAACGT     4980

AACCGTGCAA TCGGACGTGC TTCAGTAGTT CCTACCTTCT TCGGTGTAAA TGAACCAATC     5040
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1125

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TTGTTTGGTG CACCTCTTGT TTTGAATCCA ATCTTCTTCA TTCCATTTAT CTTTGCTCCA      5100

ATTGCAAACG TATGGATTTT CAAATTCTTT ATTGAAACTC TTGGAATGAA CTCATTCACT      5160

GCTAATCTAC CATGGACAAC TCCAGCTCCA CTAGGTCTAG TTCTTGGAAC TAACTTCCAA      5220

GTGCTATCAT TCATTCTTGC TGCCCTTCTA ATCGTGGTTG ACGTTGTCAT TTACTATCCA      5280

TTCCTTAAGG TCTATGATGA ACAAATTCTT GAAGAAGAAC GTTCAGGTAA GTCTAATGAT      5340

GAATTGAAAG AAAAAGTTGC TGCAAACTTC AACACTGCAA AAGCGGATGC TATTCTTGAA      5400

AAAGCGGGTG TCGATGCAGC ACAAAATACC ATCACTGAAG AAACAAATGT CCTCGTTCTC      5460

TGTGCAGGTG GAGGAACAAG TGGTCTCCTT GCAAATGCTT TGAATAAGGC AGCAGCAGAA      5520

TACAATGTCC CTGTGAAAGC AGCAGCAGGC GGCTATGGTG CTCACCGTGA AATGTTACCA      5580

GAGTTTGATC TTGTTATCCT TGCCCCTCAA GTTGCTTCAA ACTTTGAAGA TATGAAAGCA      5640

GAAACAGATA AGCTCGGTAT TAAACTAGCG AAAACAGAAG GCGCTCAATA CATCAAATTA      5700

ACTCGTGATG AAAAAGGTGC TCTTGCATTC GTACAAGCGC AATTCGATTA AGGCTAGAGA      5760

CTCTGAAATA GTCTCCCATC GTTACGGAAA TCGCTATGGC GAATTTCCTA TTATTAATTC      5820

GTCGGTAAAA AGATATCGTT TTTACCTCCT CATGTCACAA TTCGGTGACT TGGTACAAGA      5880

AGTGAGATGG AGAAGGATGG CTCACTGACT CCTCTCCTCT CACTTTTACT TTATTTAAAT      5940

CAAGAAATAG GTGAAAAAAA TGACAAAAAC ACTTCCAAAA GACTTTATTT TTGGTGGCGC      6000

AACAGCTGCT TATCAAGCAG AAGGTGCTAC ACATACTGAT GGAAAAGGAC CAGTTGCTTG      6060

GGATAAATAT CTTGAGGATA ACTACTGGTA CACTGCCGAA CCAGCTAGTG ATTTTTACAA      6120

TCGATATCCA GTTGACCTCA AGCTAGCAGA AGAGTATGGT GTCAATGGTA TTCGAATTTC      6180

TATTGCTTGG TCACGTATTT TCCCGACTGG TTACGGCCAA GTAAATGCTA AAGGTGTTGA      6240

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TCATCACTTT GACACGCCAG AAGCTCTCCA CTCAAATGGA GACTTCTTAA ACCGTGAAAA      6360

TATCGAACAT TTTGTAGACT ACGCTGCCTT CTGTTTTGAA GAATTTCCAG AAGTAAACTA      6420

TTGGACAACC TTTAATGAAA TTGGACCAAT CGGTGATGGT CAATATTTGG TTGGGAAATT      6480

CCCTCCAGGT ATCCAGTACG ACCTTGCCAA AGTCTTTCAA TCACACCACA ATATGATGGT      6540

GTCTCATGCA CGCGCGGTAA AATTGTACAA AGAGAAAGGC TATAAAGGGG AAAATTGGTGT      6600

TGTTCACGCC CTGCCAACTA AATATCCTCT AGATCCTGAA AATCCAGCAG ATGTTCGTGC      6660

AGCTGAGTTG GAAGATATCA TCCACAATAA ATTCATCTTA GACGCAACTT ATCTAGGTCG      6720

CTATTCAGCT GAAACCATGG AAGGTGTCAA CCATATCTTA TTAGTCAATG GTGGTAGTTT       6780
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1126

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GGATCTTCGT GAAGAAGATT TTACAGCATT AGAAGCTGCA AAAGACTTGA ATGATTTCCT      6840

AGGAATCAAC TACTATATGA GTGACTGGAT GGAAGCCTTT GATGGAGAAA CTGAAATTAT      6900

CCATAATGGT AAAGGTGAAA AAGGAAGCTC TAAGTATCAA ATCAAAGGTG TTGGTCGTCG      6960

TGTAGCTCCT GACTATGTAC CACGCACGGA TTGGGATTGG ATTATCTACC CTCAAGGTTT      7020

GTATGACCAA ATCATGCGTG TGAAGAAAGA TTATCCTAAC TACAAGAAGA TTTACATCAC      7080

TGAAAATGGT CTCGGCTATA AAGATGAGTT CGTTGATAAC ACTGTTTACG ATGATGGTCG      7140

TATTGATTAC GTGAAGCAAC ACTTGGAGGT TTTATCTGAT GCGATTGCAG ATGGAGCTAA      7200

TGTAAAAGGT TACTTCATTT GGTCATTAAT GGATGTCTTC TCATGGTCAA ACGGTTATGA      7260

GAAACGTTAT GGTCTCTTCT ACGTAGATTT TGAAACTCAA GAACGTTATC CTAAGAAATC      7320

AGCTCACTGG TACAAGAAAG TAGCGGAAAC TCAGATTATA GACTAGTAGA ATTAGTCATT      7380

AGATATAGAA TTTTAGTGAG TCAAAAAGAT GTTCAAAGAT TTTATCCAAT CTATTTATGA      7440

AAAAAAGTTT ATATTATAAA TTTCGAAAAA TGCTCTCAAA TACCGTGTTT GACGAGTGAA      7500

GAATTGAAAA GTCTTGGAAA ATGGTATGTC TCGACTGGTA AAGAATGGAT TTGTCATTCA      7560

GATGATGAGC TGGAAGAATT TAAAAATCTA TTTTTAAATT TTATCAATCC TGAAGAATGG      7620

GATACTATCT CCTTTGATTC AGATTTTATG CCGTTTCAAC AATCGTAACC AATTTCTCAA      7680

AAAAGTTAAA TCTTATATTT AGTACTCTGT AAAACTCTTA TCTAATCACG TTGCTTATAC      7740

TCAATGAAAA TCAAAGAGCA ACTTTAAACT AGGAAGCGAG TCGCAGATTT CTCAATGCAT      7800

AGCTTTGAGG AATTGGGCAA AAAGTCTTTG ATATAGAAAA ACGCATAGTA TCAGGTGTTT      7860

CAACACCTGA TACTATGCGT TTTATTGTGG GAAGATTTAC TTTTTTTCTT CTGAAATTGA      7920

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ATTAAAATCA AATCTGTTAA TTTTCGTTCG CTTAAAATCA GAAAAACAGG TAGACTGTTG      8340

GTTACGACGC GGATATTGTC AATAGGCAAC TCACGCGCAA AAAACTCTAA TGTTGTTCCT      8400

GGTCCAATGA AAATAGTTTC TCTTTCTTCT ACTAGACTGC CTGCAAAATG GGCTATTTCT      8460

TGTTTTTCTG CCGTTTGGAG GGCTTGTTTT TCAATATTTG ATCGCTCATT AGTCAAAAGG      8520

GAGTTGGTTC GAAGTTTTTC AGCTCCACCA TGCACACGAA TCAGCAAATC TTTATCAGCT      8580
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1127

AATTCCTGTA AATAGCGCCT TGCAGTCATA TCTGAAACGG CTATTTCGTC CATAATCTGT   8640

TTAACTGTTA T   8651

(2) INFORMATION FOR SEQ ID NO: 182:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3786 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 182:

AATCTCCAAT CAGTGCCACT TCAGCTACAA AGAAGAGGAG GATAATAACT CCGTTCACAA   60

GGACAGACAA GAATAATTGA TAGAAGGAGT CGGTTTCACT TGCTTGACTT GGTCTTGTAA   120

TGATwTGGAG ACTGGCAAGC AGAATGATTC CAATGCTAAT CACACACAAG AGGGCTGTAA   180

ATCGTAGGCT ATCAAAGAAA GCAAAGAAAC TAGCAATAGC AGTGAGGAmG ATTGGAATTG   240

CCAAGAGTTG ACTATATTGT TGGAGAACCT TGTCTAGCGT CCAGTCCTTT TCCTGGTGGA   300

TAAATCGTCT CACAACGAAA CTACCCAAGA GGAATGAAAA GAAGAAGAGT GTTGTCGCTA   360

CTAGGATAGA GATGATAGAA AAAAGAGTTA AAGGAGCTAG CTGCTCAGGG AAGCGACTGT   420

TAATGCTTGC TATATGTCCA TAGTAAGCAT GTTTGATGTG ATAGATACTA AAGAAAAAGG   480

AAGATGCAGA AAACAGAATG AGCAAGAGAA AGGCTGTGTA ACTGTGTGTG ATACTTGTTT   540

CCAACTTACT TGTAGGAGAT TTGATCGCTT CCACTAGCCA AGACCAAAAA TCAAGCACTT   600

GCTCTTTCCA TTTATCCCTA GATTTTGGAG CTTGGTCGGG GATATAAGGA CTTTCTAAAG   660

ATTTACTGAT AAGAAGTGGC TCTTTCGTGG TTGCTTTTTG CTGAGGAAGA GCTTCTTGGC   720

TCTCTTCAGC TATAGTGACT TTTTCTGTTT CTTTAGAAAG GTCTGGCTCT TCTTCAGTAG   780

AATTAGATGC CTTCTTTTCT TCTATTTCTG TTCTCGCTTC ACTGTCTTCA GGAGCTTCAA   840

TTTTCTCTTC TTGCTGGCTT TCCAATTCGA CTTCAGCTTG AGGGACTTCC TCCTCTAACT   900

GAGTATTTTT TTCAATTGGT GTATCGAGAT CGGCTATCGT TTCTTCAGCC TTGTCTGCAA   960

CCTCTTGAGC TTGCTCTTCA GGCTTGTTCT TGCTTGTTGT TTTTACAAAA TCATTACTTT   1020

CAAACCATTC TTGTTTCATG GTAGAACCTC CTTTTTAGTT AGATAAATAT GTTTCCATAG   1080

TAGCAAATGT AAGCGTTTTT GTCAACGTCT GCTTGGTGTG GATATTAGAT CAATATTATC   1140

ATCAGATCTC GCAATGAGTT GATCCTTGAC ATCGGTTTTT TCAGTTTTGT AAGGGTTGCT   1200

TAATTCCGTA CCTCTTGATT CAGGCTTTTC TCTTGTGAAT TGGAAGATAG AACCATAGTT   1260

1128

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GCTTGAGATG TCCCAGTTAA TTCGTTGGCT TTCTTTCTGG TCTAGGATGA TTCTGAGATA          1320

ATCTTTGGCA GTCAGTTCAA CCTTGCCATG GACTTGGATA TTTTCAGCGT GGAAGTGATT          1380

CTCTGTTGAC TCTAGCTGAC TATCTGTAAG AACTGTATCA AAGATATTAA CGATATTGGG          1440

CGTTGTGAGT TTACTGTTTT TGATACGACT TCCTTCAATT CGGAGGATAT AGCTGTTTGT          1500

ATTGAGGGTC GCATTTTCAA GGCTAGCATT TATGATGGTG GTTTGTCCGC GATTGGCTGA          1560

GATGTTGATC CCTTTTAGAG TTCTCCCTTT TGGTAGTCGG AGAATAACTT CTTCAAAACG          1620

ACTAGAGTAG CTACTTGCGA TATGAAGAAT CCCACCAATT CCAGAAGAGA GAAACGGAGT          1680

TTCAGACAGT TTCTTATCAG TGAGACTCAG AGTTCTATCG TTCTGATTGG TGATAAGATC          1740

ATGGTGAGCA GAAAGAGATG GATGGTAAGA AATGTGGATT TGATCATCGA AAGAGTCTGT          1800

GATGGTGAGC GTGTGTTGGT GGAGAGTAAT TTCTAGGTTT TCGACTTCCT TGCCAAAGGT          1860

TAGCTTTTCC GTACGGCTAT CATAGACAGG TTCTTTGGAC ATGGAAAGTA GGCTCTTAAt          1920

CCCGTCAGAT TGGATACCTA CAAAAAGCAG GATAAAGCCG ATAACGGTAG TCACCACACC          1980

AAAGATGAGA AATCCTTTTG TCCATTTACG CATGCTGATT ACCTCTCTTT CCTTTTTTAA          2040

GAACAAATTG TACCAGACGA ACAATGAGTA GACCGAAGAA GCGAGTTGCA TAGGAAATGC          2100

CAAGTAAAAC TAGCGAAGAA GCACCGATAG CCAGTAAACC AGAACCAAAA ATCAAGATAA          2160

AGGCTGATTT GGCTTGGGCG AGGACAGTGA AACTTTCAAC TAAAAATAGG AATCCGCCGA          2220

TGATACCCAG TATGGAAACT GCAAAGAAAG CCAGAATGAC AGTCAAAGCG GCTACAAGAA          2280

TTGCGAACAG GGTCACGAGG ATGGCGATTC CCAGAGGAAT GCCGATAGGT GCTGCAAGGA          2340

GGGCTAACAA GGCGATATGT AAAATTTGTC GGTTATTTTT TTGAGCGGGT GCTTCATTGA          2400

TTTTTTTATC GAGAAGATTG GATAGAACTT CGTGGGCCGC TTCTTTGGGA GTTCCCAAAC          2460

TAGCGATGAG TTCTTCTTCT CCTTCGACTC CAGCATCGTC AAAGAGCTCT CTGAAATAGT          2520

CCATGGCTTC GATACGGTCA GCTTCAGGTA GTTTCTTGAG ATAGAGTTCT AGCTGAGTCA          2580

GGTATTCAGT TCTTGTCATG GCGGATACTC CCTTCTATGA TGCCATTGAT GGTGTCTGTA          2640

TAGAGTGCCC ATTCATCTTT TAGGGTCAAG AGCTGCTCTA TACCACCGTT TGTCAAGGAG          2700

TAGTATTTGC GCATGCGACC TTGGAACTCT CTAGAATAGG TTGTCAGAAA GCTATTGCCT          2760

TCCAATTTTT TGAGAATGGG ATAGAGTGTG GATTCTTTGA TATTAGCGAT CAGCTTAATG          2820

GTTTGGCTAA TCTCATAACC ATAAGAATCA CCCTGCTCCA GTACAGCCAA GATGAGAAAT          2880

TCAATCAAGG CAGAGGATGT TGGAAAGTAC ATGGGAAACC TCCTTTTCTA ATGTGTAAGA          2940

TTTTTATATA TAATTTTTCT ACACATACAT TGTACATCTA AAAGAAAGCC CTGTCAAGAG          3000

AAATGTGTAA AATTTTTATA TATAAAAAAC TTCTAGCTAA AACTAGAAGT TTAAAGGATC          3060
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1129

TTATCCGCTC TGTCCACTGT AAAGAGGGCC ACAGTCATCA GGATATCGAT GAGCAAGAGG   3120

GCAGCTACAG ATGGTACCCA AGAGTGGAAC AGGTCAAAAC TGTAACCAAA GAGGGTTGGC   3180

CCAAAGGCTG CTAGGATATA GCCTCCTGTT TGAGATAGGC CGGACAATTG GGCTGTCTTT   3240

TCAGGGGCGC TTGTCTTGAG TGAAAAGTTG ACCATGAGAT AAGGGAAGAG GGCACTGGTT   3300

GCGGTTCCGA TGAGGAGATG GATGGCAAGC CAGTAAATGA AATTATTGAT TGGGAAAAAG   3360

AGCATGGAAA TGCCGACCAC ACCAGCTAGT GAAACCAGAG TGAGCATGAG CTGACGGTTG   3420

CGAGTAGATA AACTGGTTGT CAGGCTTGGG ATGGTCATTG AAAAAGGAAT GCTAATCAGA   3480

GATAAGATAG AAGTCAGCAA GCCAGCTTCG TGACTGGATA GACCTGCATG GATAGACATG   3540

GTAGGTAACC AGGTCATGAC GGTGTAAAAG ATCAAGGATT GAAAACCTGA AAAGATAATA   3600

ATTGCCCAAA CCTGTTTATT ACGCATGACC TTTATTTGAC TTTTTTGTTT GGTTTGTGGA   3660

GCTAGTCTAT GATTATAGCG GTGATTTGGG AGCCAGACCA AAAAAGTTGC TAGACAGAGT   3720

AACGTGAGGA GAAGGATAAG TCCTTTCCAA GAACTGGCTT GTGTAATGGG CACAGCTAGA   3780

TAGGAA   3786

(2) INFORMATION FOR SEQ ID NO: 183:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3054 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 183:

TCAGCTAAAA AACATTGCTA AATTGATTGA AGCTGGTGCT ACACATTCCG ATTCAACTTC   60

TCACACGGCG ACCACCAAGA ACAAGGTGAG CGTATGGCAA CTGTTAAACT TGCGGAAAAA   120

ATTGCAGGTA AAAAAGTTGG TTTCCTTCTT GATACAAAAG GACCTGAAAT CCGTACAGAA   180

TTGTTCGAAG GTGAAGCTAA AGAATATTCA TACAAAACTG GTGAAAAAAT TCGTGTTGCA   240

ACTAAACAAG GAATCAAATC AACTCGTGAA GTGATTGCGT TGAACGTTGC TGGTGCTCTT   300

GATATCTATG ATGATGTTGA AGTTGGTCGT CAAGTTTTGG TTGACGATGG TAAACTTGGT   360

CTTCGTGTGG TTGCTAAAGA TGATGCAACT CGTGAATTTG AAGTTGAAGT TGAAAACGAT   420

GGTATCATCG CTAAACAAAA AGGTGTGAAC ATCCCTAACA CTAAAATTCC TTTCCCAGCT   480

CTTGCTGAAC GCGATAACGA CGATATCCGT TTCGGTCTTG AACAAGGTAT CAACTTCATC   540

GCAATTTCAT TCGTACGTAC TGCAAAAGAT GTGAACGAAG TTCGTGCAAT CTGTGAAGAA   600

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                                         1130
ACTGGAAACG GACATGTTCA ATTGTTCGCT AAAATCGAAA ACCAACAAGG TATCGATAAC      660

TTAGATGAAA TCATCGAAGC AGCTGATGGT ATTATGATTG CTCGTGGTGA TATGGGTATC      720

GAAGTACCGT TCGAAATGGT TCCAGTTTAT CAAAAAATGA TTATCAAGAA AGTCAATGCT      780

GCAGGTAAAG TTGTTATCAC TGCAACAAAC ATGCTTGAAA CAATGACTGA AAAACCACGT      840

GCAACTCGTT CAGAAGTATC AGATGTATTC AACGCTGTTA TCGACGGAAC TGACGCTACA      900

ATGTTGTCAG GCGAGTCTGC AAACGGTAAA TACCCACTCG AGTCAGTAAC TACAATGGCT      960

ACAATCGACA AGAACGCTCA AGCTCTTCTT AATGAATACG GACGTCTTGA TTCAGATTCA     1020

TTTGAGCGTA ACTCTAAGAC AGAAGTAATG GCTTCTGCTG TTAAAGATGC TACTAGCTCA     1080

ATGGATATCA AATTGGTTGT AACTCTTACT AAGACAGGTC ATACTGCACG TTTGATTTCT     1140

AAATACCGTC CAAATGCTGA CATCTTAGCA TTGACATTTG ACGAATTGAC AGAACGTGGC     1200

TTGATGTTGA ACTGGGGTGT TATCCCAATG TTGACAGATG CTCCATCTTC AACTGACGAT     1260

ATGTTCGAAA TCGCTGAACG TAAAGCGGTA GAAGCAGGTC TCGTTGAGTC AGGCGATGAT     1320

ATCGTTATCG TTGCTGGTGT GCCAGTAGGA GAAGCTGTTC GCACAAACAC AATGCGTATC     1380

CGCACAGTAC GTTAAGAAAA ATATAAAAAC CTATCATATC CAGCTTTAGA GCTTGTGTGA     1440

TAGGCTTTTT GTATAGAGGG TAAGAAATAG GCAAAACTTT CATAATGGAT TGATACTCTT     1500

CGAAAATCTC TTCAAACCAC GTCAGCGTCG CCTTACCGTA TATATGTTAC TgACTTCGTC     1560

AGTTCTATCT ACAACCTCAA AGCAGTGCTT TGAGCAACtG CGGCTAGCTT CCTAGTTTGC     1620

TCTTTGATTT TCATTGAGTA TGAAATAAGA TATGCACAAA TTGATTAGAA AGTCAAATGA     1680

ATTTCTACAA ATGTTTTAGC AATCGTAATG TACTTGTCTA GATTCGATCT GATATATTTT     1740

CGATTTAATG ATATGGTATT TAAAACCTCC AAAGTAGCTT ACTCCATTCT TTTACTTACG     1800

TGAGTGTAGA TGTTATTTAC TGTTTTAGCG TTTTTGTGTT CCACTCTAAC CATTATAGCA     1860

TTCTTCTCAG CTAGTGTACT AAGGAGTGTG TGCCTGAAAA TATGGGAACT AAGGGGCTGG     1920

TTTATCGGTT TCTCTAGTTT AGTATTTGCC TTTTGCAAAG TGATCTTAAA TGCCTTTCTC     1980

TAAATTTACA TATCACTATT GTTTAACAAA ATCTAATCTA TTTTAGGTCA CTTATTCTTT     2040

TTTTGAAATG TAGAATGAAC TTTTTCAAAG TTTTTCGAAT CTTTTAAAAT CTGTTTGCTT     2100

TATATCGCCA TTCTCCCCCC TTTTTTAATT CTCCCTATAT AGCCTGACAG CTTTCCCGAT     2160

GGTACGAATA TGGTTGCTTT CGTCTAGGTG GATGTCGGGG TATTCGGGAT TGAGTTTTTT     2220

TGAGGCAGCC TTGGCGGAGT TTCTTGACAT AGTTAGTGCC GTCTACTTGG AAGATGCCGA     2280

TGGTATTATA GTCAATCTGT GGGGTATTCT TGATAAATAG GTAGTCGCTG TTTCTTATCT     2340

TTGGCTCCAT GGACTTGCTG ACGACATAAG CGATTGGGTC GTAGTCGTCT GGGATAATGG     2400
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1131

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AAACTCCATA TCTAAATCGT TGTCCTGCAT CGAGCGGCTA CCTGCAGAGA TAAACTACCT      2460

AACACGAGAG TAAGTAGTCT GTCTGTAGTC GTCCAGTCTG ATGATTTTTA CGATACTTCG      2520

TTTTTCTGAT CATACAGTTG CCTCTCGGCA TAGGTCAGAA CTTTACCTTG TCTGGGTGGT      2580

TCCCGTTGGT CGTAGATAGA TTGGATATCG CTAGGAGAAT CCTTTTGAAC TGGAGGAAAG      2640

AGGGCATCGA TCAAGCTACT GAATACTTTA ACTAAGTCAA ATATAGTATT TTTCTTAGTA      2700

GACCTAACCC TTTTTTCATA ATTTCTAATG GTGTTTTTAC TTATACCTAT CTTAGTACCC      2760

AATTCTTATT GAGTCCAACC ATTACTAGTC TATATTGTTT TATAGTTGAT TGAGTTTGGA      2820

ATAGTACGCT GTAGCTGCTA AAACATTTCT AGAAATTAAT TTGACTTTCC TAATAGAGTT      2880

GTTCATATCT TATTTCAATC TATTATGTTT TTCACCTCTA ACAATCGCAA TCTCTTCTTT      2940

ATCCATGAAT GAAATCGCTT TCTATTTTTG TAAGTAAAGC ATAACACGAA ATCCACGAAA      3000

ATGAAAACCT TTGTTGTGTT TTCGTAAAAA ATTTGTTGAC AGAGCACGAA ACGC           3054
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(2) INFORMATION FOR SEQ ID NO: 184:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1590 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 184:

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TGTGATTTTC yGAAAATTTG GTAAAATATA TCTTAATCAT TTTCAGGAGG ACAAAAATTT       60

GACAAGATAT CAGAATTTAG TAAATGGAAA ATGGAAATCA TCTGAACAAG AAATTACGAT      120

TTATTCACCA ATCAATCAAG AAGAATTGGG TACAGTTCCA GCCATGACTC AGACTGAAGC      180

TGATGAGGCT ATGCAAGCTG CGCGTGCAGC CCTGCCAGCA TGGCGAGCTT TATCAGCAGT      240

TGAACGTGCG GCTTATTTGC ATAAAACAGC AGCTATTTTA GAACGCGATA AGGAAGAAAT      300

TGGTACTATC CTTGCCAAAG AAGTAGCAAA AGGGATTAAA GCAGCAATTG GAGAAGTAGT      360

GCGTACAGCA GACTTGATTC GTTATGCTGC TGAGGAAGGT CTCCGTATCA CTGGACAAGC      420

AATGGAAGGT GGTGGTTTTG AGGCAACAAG TAAAAACAAA CTGGCTGTTG TCCGTCGTGA      480

ACCAGTTGGT ATCGTGCTAG CGATTGCTCC CTTTAATTAT CCAGTTAATT TATCTGCTTC      540

TAAAATTGCA CCTGCCTTGA TTGCAGGGAA TGTGGTCATG TTTAAGCCAC CAACACAAGG      600

TTCCATTTCT GGACTCTTGT TGGCTAAAGC ATTTGAAGAA GCAGGGATTC CGGCAGGTGT      660

TTTCAACACC ATTACAGGTC GTGGTTCAGA AATTGGGGAT TATATCATTG AGCACAAAGA      720
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AGTCAACTTC ATCAACTTTA CAGGTTCAAC TCCTATTGGA GAACGTATTG GTCGTTTAGC      780

TGGTATGCGT CCTATCATGT TGGAACTTGG TGGGAAAGAT GCAGCTCTTG TACTAGAAGA      840

TGCAGATTTG GAACATGCTG CCAAGCAAAT TGTTGCGGGA GCCTTTAGCT ACTCAGGACA      900

ACGTTGCACG GCCATTAAAC GTGTCATTGT TCTCGAAAGT GTAGCAGATA AATTAGCTAC      960

TTTGCTTCAG GAAGAAGTTT CTAAATTAAC AGTTGGTGAT CCATTTGACA ATGCTGATAT     1020

TACACCTGTT ATTGACAATG CTTCAGCCGA CTTCATTTGG GGCTTGATTG AGGATGCACA     1080

AGAAAAAGAA GCTCAGGCTC TTACACCAAT CAAACGTGAG GGCAATCTTC TCTGGCCAGT     1140

GCTTTTTGAC CAAGTTACAA AAGATATGAA AGTGGCATGG GAAGAGCCAT TTGGTCCTGT     1200

TTTACCAATC ATTCGTGTGG CTAGTGTAGA GGAAGCTATT GCCTTTGCCA ACGAATCTGA     1260

ATTCGGCCTT CAATCATCAG TCTTTACAAA TGATTTCAAA AAAGCCTTTG AAATTGCTGA     1320

AAAACTTGAA GTAGGTACAG TCCACATTAA TAATAAAACC CAGCGTGGTC CAGATAATTT     1380

CCCATTCCTT GGTGTCAAAG GTTCTGGAGC TGGAGTGCAA GGAATTAAAT ATAGCATTGA     1440

AGCGATGACA AATGTCAAAT CCATTGTTTT TGATGTGAAA TAACGTGTAA AACCAGGAAA     1500

TTGTTTTCCT GGTTTTATTT TTTTGCTATA AAATAATAAT AATTATAGAA AAAATACGAA     1560

CTTTTTGGTA TTATAATAGA TTGAAACCGG                                      1590
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(2) INFORMATION FOR SEQ ID NO: 185:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4848 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 185:

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CCTGCAGTTG TCAGACCTGT AATTTTCTTT TTATCTGTAA TAAGAATCGT TCCAGCGCCT       60

AGAAAACCCA CACCTGATAT AACTTGAGCT CCTAATCGTG TAGGATCTCC TGTCCCAAAT      120

TTATAAGATA CGTATTCATT CGTCATCATA ATCAAACATG CAGCTAGACA AACAATACTA      180

TAAGTTCGGA TGCCTGCAGG CTGGGATTTG CTCCCTCTCT CTAAACCAAT TATACTACCA      240

ATGACTACTG ATAAAACAAT CCTGACAACT ATTTCAATAT TTGATAACCC AAGACTAGTG      300

GCTGTCATGA TTATTTCCTT ACTTTACGCC CCGGTCTTTG TGTGAAGTAT AATACCGTTC      360

CAGAAATAAT CATCAGAACA ATTGTATAAA CAAATACCAG AGCTTGTGCA TTAGATGTTG      420

CTGTTTCATC ACCTGCAGAT CGAATCGTAA TACCTAATGG TTGAGCTAGG GGATGGTAAA      480

GGAATACAGA TAAGTCGAAG TCAGTTAATA AAGAGTTAAA GTTTAAAGCA ATAACAGAGA      540
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1133

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GAACAACCGG TAAAATAAAT GGAATGATAA CCTTCATCAT AGTATAAAAA GGTGAAGCAC        600

CCATACTTCT TGCTGCATCT TCCATCTCAT CATCAACACT AAATAAAATA GCACGTACCA        660

TTCTATAAGA AAATGGGATT TTTACAACTA TATATGCAAT AAGTAGAATT ACCAAACTAC        720

CTACCAAAAT CTGATTCAAG ACAAGAAATT GTGGCTGATT AAAAGTAAAT AATAAACTTA        780

CTGCTAAAAG TGTACTTGGT AGTAACCAAG GAAGTAGAGC ACCATATTCA AATAAGAAAT        840

CAAAACGAGA TTTATGTTTT CTGACAACAC GAGCAAATAC AACTGCGAGA ATTGTTGCTG        900

TTGTCGCAGC AATAATAGAA TAAATAAAGC TGACCAAGAA TGGAGAGAAT GCCGCACTAT        960

TACTAAAGAA TAAGCGATAA TTTTCTAAAG TAAAGTTTGA TAATGTTAAG TTACCTGTTT       1020

GAATTGCAAC TGGATCTGTA AATGAGTATA ATACTATAAA AATTAGTGGA AGCATGAAAA       1080

CTGTGAACAA TCCATATGCT ACAATGTGAG CAATGATATT CCAAGGCTTA GACGCAATTT       1140

TTTGTTTTTT AAGAGGCGCT TTAGTCTTAG AGATAGAAAT ATAATTTCCA CCTTTTTCTA       1200

TCTTATTCAT GATAGTAAGC AAAATTGTAG TTGCAATACC TAAAATAATT GCAAGTAGGG       1260

CAGCTAAATC ACGAGAATTC CCCATCCCTG CAAATGTAAT AATCATTGGA TTTATAGTTT       1320

GAAATTCTTT ACCACCAACA ATCATGGGTG CTGCTACTGC AGATAAACCA CTAAGAAAAA       1380

CCATAATAGT AAGTGCAAAT AGAGTTGGAA TTAAGGTTGG TAACACTACT TTTCGGAAAA       1440

CAGTAAATGG TTTTGCTCCC ATATTTCGAG CAGCCTCAAT AGTGTGATAG TCAACGCTTC       1500

GAATTGTATT TGTTAAAAAC AATGTATGAT TAGCAGTTCC TGAAAATGTC ATAATGAATA       1560

AGACTGCACC ATACCCAATA AACCAGTTAG GGTCTAAAGA AGGGATAACA TTTTGTAAAA       1620

ATTTTGTAAT CAATCCATAA GGACCATAGA CAAATTTATA TCCAGTCGCT AAAACCACTC       1680

CTCCATAAAT TAAAGAGGTC ATATAACCTA ATTTTAAAAT TTTAGCACCT TTAATATCAA       1740

AGTACTCTGT AAATAGAACA CAAAGAATAC CTACGACATT AACTGTAATA ATGAGTGAAA       1800

ATGCTAACTT AAAACTGTTC ATAATACTCT GAAGTGCCCT CTGAGATTTT AGAACACGAT       1860

GTACAGCATC AAGGGAAAAT TCTCCTCCTT TTACAAATAC ATTCACTACT AGATCAAAGT       1920

TTGGATAAAT AATAAATGTT ACTAAGAACC AGATTAACCC TAAACGAATA AGCCAATCTT       1980

TTAAATTTAA TTTATGACGC ATACTGCACC TCCTTAAAAT TGCAGAACGT CTGATGGTGT       2040

GATAAATAAT TCCACACTTT CTCCGACAGA TCTAATAGCA GCCTGACTAT CAATACTTGT       2100

TACATTAAGA ATCTGACTTT CAGAAACTTT TATTGTATAG TGAATTGTAA CTCCAGAAAA       2160

CTCAACATCA ATAATTGTCC CTTTTAGAAT AAAATCTTGT TCAGTTTCAC GATTGAATCG       2220

AACTTTCTCT AATCGAATGT ATCCTTTTTT ATCCTCTAAG AAAACGCTTG TATTTTTCAA       2280
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1134

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TAATACTTCG TGGACTGTTT CATCGGTCAA AACATTAATA TCTCCAATAA AATCACATAC    2340

AAATTCAGTT TGAGAATTAT GATAAATCTC TACTGGTGTA CCGACCTGTT CGATGTATCC    2400

ATTGTTAAAG ACTGCAATTC TATCAGATAA AGTCAAGGCT TCCTCTTGAT CATGAGTAAC    2460

ATATAAAGTA GTAATACCTA ACTCTTTTTG AAGTCTTTTC AACTCTTTTC TCAAATCTAC    2520

ACGTAATTTT GCGTCAAGGT TTGACAATGG TTCATCTAGA CAAAGAATTT TAGGTTCAAG    2580

AACCAGAGCA CGAGCCAATG CTACCCTTTG TTGTTGACCC CCAGATAATT CTGATACATT    2640

ACGCTGTAAC TGTTGATCAG AGATCTTAAT TTTTGCTGCC ACTGCTGATA CTTTAGCTTT    2700

AATAACATCT GGAGCTACCT TCTTAACTTT TAAACCAAAT GCAATATTAT CAAAAACAGT    2760

CATAGTTGGA AATAGCGCAT AAGATTGAAA TACAATACCA ATTCCACGCT TTTCAGGTTC    2820

CAAATGAGTG ACATCTGTTC CATTAACTTC AATACTTCCT GATGATGGAT CTAGAAAACC    2880

TACCAATGCT CTCAAAGTAG TTGATTTACC ACATCCTGAA GGCCCAAGAA ATGTAAAAAA    2940

TTCCCCTTCA TGTATATCTA AATTCAGATT ATCAATTGCA ACAAAATCAC CATATTTAAT    3000

TTGAATATTA TCAAATTTAA TCATCTCACT AACTCCCTCT ATTACTAAAC CAAAAGCCTC    3060

TCTTTATTTC TTCCATAAAT TTAGAAATAA TAGAGAGACT TGGACATAAA AATTAACTCT    3120

TATTTCTTAT TGTACGTATT CTAATTCAGC TTTTTCTACC CATTCATCCA AATGCTTTCC    3180

AACAGCTTCC CAGTCAATAT TTTGTGGTTT CACTTGATCA ACAAATTTCT TCGTATCTTC    3240

AGGTAGATCT TTGAGGGCAT CTTTATTTGC AGGAATAGAT CCAAAGTTCT TACTATATTC    3300

TACTTGAATT TCTGATTGAC CAAACCAATC AATAAATTCT TTAGCTAACG CTTGTTTTTT    3360

ACTAGTGCTT AAAACCATAG TTTGTTCAGT TACAAATGGT ACACCAATCT CAGGAGTCAT    3420

AACTTTGAAA ACAACATTTT GTTCTTTTTG TCCAACTAAT GCACCAGAAC CCCACATCAT    3480

TCCATATTGT ATTGGATCTT CTTTGTCTAA CATCTTAACA ATTGAACTTT CTCCCTTTTG    3540

AAGAGTGTAT GCATTTTTCA AATATTCTTT TGCTACTTCC CAACCTTTTT CGGAAACACC    3600

TAATTCACCT TTATCATCAA GGTATCGAAC TAAGATACTT GCTAGAATTG CCCGTCCTGT    3660

ACCTCCTTGA AGACCAGAAA TTGAATATTT ACCTTTATAC TTACTACCTA ATTCAGTCCA    3720

ATCTTTAGGC ATTTCTTTTA CATCAGGCGC CCCAATTAAA ACTAATGGTT GAACAATCAC    3780

AGGATTATAA TAATTATCTT TATCTGATAA AGATTGATCA ATTTTATCTA ACCATTTAGG    3840

CTTGTACTGT ACTAGTAATT TTTGATCTCT AATTTTATTT GAATCAACAG CACCAATTCC    3900

AAATACCATA TCTGCAACTG CATTATTCTT CTCAGCAATA ACACGGTCTG CTAATTGAGC    3960

GCCAGCGATA TCAACCATTT TTATATTAAA ACCAGCTTCT TTTGCTTTAG CAGTTAACCA    4020

ATCACCACGA CCATTTGAGA CTGAGTTCGA ATAGATAACT AATTCTTGAC TTTTATCAGC    4080
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1135

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TTTTTCTTCA GATGAAGAAG CAGTCGTAGA ATTTGAACCT CCAGAGCAAG CAGCAAGTGT        4140

AGTAAgAGCA ACTCCCGTTG CAAGTACAGT AGACCAAACT TTCATTTTTT TCATGATAAG        4200

TTCTCCTTTT TTATTATTTT ATTTAAATTT TTCGTGATAT GGAACAAATT GTCTCATATC        4260

TTCAAATACA GTATAGTCAA TACGGTTTAC AGTAATAGTT GGAATCTTCT CTAATAAAAT      · 4320

TTCAGTTAAT TCTGCTCTGA CTTTAGTAAA CTCTTCTTCC TCCTCTTCGG TTAGAGGAAT        4380

CCGAAGATAC CCAATTGAAA TATGGAATTG ATATCTATCA TGATTAGGGA AACAAACACC        4440

TGCTTTTTCT GAGACATAAG TACGAATTTC TTCTAATCTC TTTGCAGAAG CTTCATCTGC        4500

AGGTTCAACT AGTATGTTTT GTTTTCCCAT TTCAGTTATA CGCATATGAA TTTCTTCATC        4560

CAACAATGGA AAAATTTCAA GTTGTTTAGC AAAGTAATCA TGTATTTCCT GTAAAGGTGT        4620

ATCTAGAGGA AGATTACTGC TCCAAAACTC gtTCACGATT TTCATGGCAC AACAATTCAA        4680

TTACAGTCAT GTGAATAGAA TTCCTTGGAG TTAAAGTAAA CTTATCGATA AATGGTAATT        4740

CTCTATAACG TGATTGAATA ATATCAACAA CTTCCATCAA ATCTTGTTTA GTATAAAGAT        4800

TTGCTACAAC TGTATTCCCA GGGAAATGAT TAAATTCCCC ATTCTCGG                     4848
```

(2) INFORMATION FOR SEQ ID NO: 186:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 3763 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 186:

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GTTATAAGCA ACACCTTCTT GCTTGCCATA AGTTGTGAAA TGGGTAGAAT CGATATCTAC         60

AATGAGTTGG TTTAGCTGGT GAAACTGTAA AAAGAATTCG ACCAATTCAA GGTTGAGGCA        120

TCGCAAACTA TGGACTGTTT CCTCGTCAGT TCTGGAAAGA AAACGGGATA AGGTTGGCTG        180

TGAAGCAAGC TGCCCTCCTT CCAATAATTT TGGAAAGTAG GCATCAGCTG ACAATTCTTT        240

ACAAGCATAG TCCGTTCCAT AACCTGTTAA CAGTTGAAAG AGGAACTGGA CAAGGATATC        300

TGAATCCGAA TAACGACAGT AGCGGCGTTG GTCATTCGTT ACTAAATACT TAGAAATCCG        360

CTCTTTTAGT TTCAACTGGG AAAAAAGTTC CTGAAAAAAG ATAAGACCAC CATACTGGGT        420

TAAATGACCT CCATCGAAAG ATAGTTGGTA AAAAGACTTG TTTTGGAAGT GATGATTTGG        480

TAAACTGTTC ATGTGAGTTT CCTTTCTTTT TGTGTTTTTT TCTACACTTA TACCATAAAG        540

GGGAAACTCT TTTTTGTCTA GTAAAAAACA CCCATTGGGT GAAAAAAGAA ACCATCCAGG        600
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                                      1136
ATCTAAGCTA AGGCAAGGAT TCTGGATGGT TTTTAGATTT GGGGTGAATA ATTGGGGATT      660

TAGGAGAAAT GATGGTATCT TCCAAATCAA AATCAACTTC ACTCCATAGT CTCAACTGAT      720

TGATTTTCCC ATCTTGATAG GTCACATCCT TGTCAAGGAT AAACTGAGTC AACACCTCAT      780

GTTGACCTTG ACACCTGATG TCATCTACCA AGAGCCAGAC ATCCTCTACC AACATGAGGA      840

TTTTTCTCCT GTGAAGATAA GGCAAATCAG GTTCTGCTGA CCAATAAGCC CCCTCAATAT      900

AATGCACTCC CTCCCTTTCT TTATGGTGAC AAAACAGGGA GTGAGGATAG TATTCATATT      960

CCCAGGATCC CGTGATTCTT TCCGGAGCTT TCCCATCTAC AATGCAGGTC GAATGACTCC     1020

AAGCACTCTT TAAGAGATAA CGTTCATATA TCTCCCGATA AGAATAACGC CCAGCATCTA     1080

TGAAAATAGG TTGGCCTTGA TACTGTAAGC AAAAACTATT CTCGTCACTA TGACTATGGG     1140

CACTTCCTAG CGGACCATTT TTGAAAAATA GATAACGATG TTCATCCTTA ATGCAGACAT     1200

GTCCAGAGTC TTCAAAGATC ATGGACTTAG GCTGCCAAGC TCTCTTTTCA AATTCCTGCA     1260

GTCGCTTGAC CTTTTCTCGC CCCAGGAACA AGAGGCTAAG CAAATCAACT TTAACATCCA     1320

GACCGTTAAG AAGGTCTTCC TGGTTCAAAA CCACAGCAGA CAGGCTCAAA ATTTCTGTCG     1380

TTTCTGTAGA ATCGCTATCA CCAAAAGCCA AAGTCCGTCC ATCTAAGCCT GTCATCATTT     1440

GAATATAGGT CGCCATCTTT TCCAGCAACT CTTGGTAACT ATCTTGCAAG TCTGGAAGCA     1500

AGAGACACAA ATCCAGCAAG GCTTTATAAA CCTCTACATG ATAGAGAATC GACTGTTCAA     1560

ACTGGCTTCC ATCTCCTAAA ATCTGTGTCT CAATTTGCTG TTTCAACTCC TCTGAAGCAA     1620

AATGGTAAGC TTCTTCTAGA TCCATCTTAT CTGAAAAGAA ATGATAGATA GCAAGCATCG     1680

GAATTGTTTG TAAAATCCCC CAGTTACTAA GGGTGTACTT GGCGCGATAG TAGCTTTTCA     1740

TAAAGTCAAT CTGCTTTTCT AGACTGACCA AAATTTTCTC TAGTTCTTTC TCCTCTAGCA     1800

AGTCAAATTT CAAGAGGAGC AAGAGTAGTT TCAACCAAGT AAAGGAACGA ATACCCGTAT     1860

CCAAGGTTCT AGTCATCAAG GATTGAGGAG AAAATTCTCT CACCTGCTCA ATCCAATCAA     1920

ATAGAAAGAA CTTGCACTTT TGAATATAGT CCTTATCTCC TTCTACCAGA TACCCTATCA     1980

TAAACTGCAA GAGATATTCT TGTCGATTGA GCATATAAGA CCATTCTGGA TCATCTTCAA     2040

ATACTTGATC CCATACCATC GGCTGGATTT GATGGATTTT TGAACAAGGC TCCATATCCC     2100

AAGGACTATC AAACATAAAA CGATTGTCCA TCAAGCGTTC AAGGGAACTC TTGACTTTCT     2160

CATAGTCTTT TGAACAGTGC GACAAGATAT AATCACGACA TTGATTCCA TCGACTCTTT     2220

CAAAAAATTG TCTTCTTTCT TCTTTCATTA TCTATTACCA GAAAAAGAAC TACTTAAAAA     2280

GCAGTTCTTT TGTCTTTCCC ATTACACTTT CCTTTTCTAC ATGGATGACC ACACCTTTTG     2340

CAATCTGCAA GGAGACCAAG TCATCTTGGA TAGAAATGAT TTTTCCATGA ATTCCAGACA     2400
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1137

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ATAACAACAC TTCATCACCA AATGTTAAAG AAGCTAAATA CTCTTGTCGT TGCTCCATCT    2460

GTTTGCGAAG CAACTTTTGC TGACGAATAG AATGAAAGCT TGACAGTAAA AGGGGACTCA    2520

CTGCCAAGAC AATCACTATT CCATAAAACA ATGTTGTATC CATTAAGCTA TAATCTTAAG    2580

CCAGCTTCCG ATAATTCCGA TGATAACTGT TAAAATAACG AGTTTATATG TTGTCCATTT    2640

CTTTTCTTTG ATCAAGTAGT AAACTAAAAG TGTAAATAGG GCTGGTAGAA GAGCTGGAGC    2700

AACCTTATCA AGCATTCCCT GAATACTTAC GATACTTTGT TTAGCGTCTG CTTTAACTTC    2760

CCCTGCAGCA AAGGTAATCG GCACCATAAT CTTAACAGAT GTCGCTGCCA AACCAGCAAT    2820

TACGtTACAC CGATAATATT GGCAATACGA GAAATCGTTG CCATCTGTTC GCTTAGTTTA    2880

TCAATCACAG TTGTTCCTAG TTTGTATCCA TACAGACCAG TTGACAATTT AATCGCTGTT    2940

AAAATCGTAT TCATCGCAAG GAAGAACAAG ATTGGACCGA CAACCAAGCC TTCTTGAGCA    3000

AACGAAGCTG CGATGGTTGA GAACAATGGA GCTAAACAGA ATTGAGAAAG AGAATCCCCA    3060

ATACCTGCCA ATGGTCCCAT CAAGGCCATC TTGATGCTAC GTGTTTCTTT TGCCGGACGG    3120

CCATTTTCCA ACATTACAAG ATGCAAGCTG GTAATAAAAG GCAGGAAGTG TGGGTTGGTA    3180

TTATAGAATT CACAGTTTTC TTCCAAGGCT TGGTAGAAAC CTTCCTGATC CTCTCCATAG    3240

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TTAAATCCAT TTTGACAAAA GAATGCCCGC AAAGACGTTT TAAGATAATC ACGTTTTGTT    3360

AATTTGTTAG ATCCAGTCAT CGTGTGCTTC CTCCTCTACC ACATGATCCG CTGTTTTTGG    3420

CTTGTTATAA AATTCAATCA AAGCAAAGAT AGTACCTACA ATTGCAATAC CAATTGTTGG    3480

GATGTTTAGA TAAGCTGCAC AAACATATCC CAACAAGACA AAGGGAATCA ACTCTTTCTT    3540

AGCCATCACT GACAAGATCA TCGCAAAACC GATAGCTGGG AGCATTTTAC CAGCAACTGT    3600

CAAACCTGTA AGTAATACCG GTGGAATGTA GTCTACGAGT TTCAACAAGG TATCCATTGA    3660

AAGGGCACCA AGCAACCCAA GGTAAATCCA ATAAAGGCAA ACAACCAAAT TGTTGCATTT    3720

AGAGTGAACT TAAATTTCTT CAAATTATGG TTTTTCAAGT GCT                      3763
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(2) INFORMATION FOR SEQ ID NO: 187:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 5053 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: double
           (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 187:

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                                         1138
CAATCTCTGA GTATGTGCGG TCAATACTAw CAAAGGGAAT yCCTGACGTC AAGTAATGTT        60

CAATTGGmCT ATAGGTAATG GCAACCACTC CATCAACTTT ATTATGACGC AACATCTCCA       120

GATAGTCTTG CTCTCTATTT GTACCATTGA TAGAACATAA GAGTAATTTG TTATTTCTCT       180

TATAGACTTC ATTTTCCACA TGCATAGCAA ATTCTGAAAA GAAGGGATGC CAGATACTTG       240

GTACAATGAT TGCAATCGTT TCTGTTCGAT TTTTTTTCAT TCCTCTAGCG TAGTAATCTG       300

GAATGTAATT CAAAGTTTTA ATCGCTTGTT CCACTTTTTT CAAAGTTACT TCTTTAATGC       360

CTTTTTCTTT ATTAATTACA CGTGAAACAG TTCCAACACT AACTCCTGCT TCTAAAGCAA       420

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AGTATCATGC AAATGCTTTT TAAGCAACTA TTTCTCAATC ATTTTTGGCC AGATCATTTA       540

TCCCATCATG AATAAAATCA CTCCAATTAG CTTTTGAAAA TACTTCAATT TTCATGTGTA       600

AACATCTACA TAAAACAGGA AAAGCCTTGG TTTCATGGCT TTTTTCGTAT CTTCTATAAA       660

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GTCTTTTCTT AACAAAAACA CCCCCAAAAT TAGACTTTTT CTGTCTAACT TTTGAGGTAC       780

AGTTCAAACG CGAAATAGCG TTTTTTTGTT ATTTTTGGTT ACTCATCTAA TCGAATAAAC       840

ATCATGGCAT TTAACAAGTA TATGAGTGAG ACCGTGTTTA TATTATTTGA ATAGATGAGT       900

CTCTTATTTT CAATAGGAGG AATAATAAAA TTAGAAATAA TGATATCATA AGGTGAATCT       960

TCTAAAGATT CCTTTGATAA TTCTAATTCA GTCCAAACTT CCAGTTCAAA ATTATTGCTA      1020

CAATAATAAG AAAGTGTCTC TGCAACGAAT TTTGCATGAT ACTGATCAAA ATTACTCATA      1080

ACTAAAACCT TTAGTTTAGG CTGATTTTGT AGCAAATTAA TCACCAAATG TTTGGTATGA      1140

GTGATGAAGG TATAAGATAG ATGATTTACC ATCATTGAAC TAGAACAAAC CTCAAGAGTC      1200

TCTAAATAGT GAGAAAGCTC TTTTTTTATA TCTGAAACAA ATTTTGGAAA AATATTTTGA      1260

AAGTTCCTGA TTGTATTCCC TTTTTGATCA AATAAAATAA ACTCAGTAAA CAACTCTTGA      1320

CGATACAGAT GTGCGGTATT ATGCAGATGC CAAATCAGAT TATCCTTATT CTCCATTTCA      1380

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ACATAACTAT CCTTTTTTAC GCATTTCATA AAGAGACTTT CATCTATGAA AAACATTTTT      1500

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GATTCAAAAC TCTGAGCAAC ACCTTCTATT CCTTCTGCCT GCATTAAAAA ATCCAAACTT      1620

TGGTCGTTAA AAGAATCTTT ATCTACTTCC ATAAAATGAC CAAACTTTAT TCTATATAGG      1680

TTCGTAACTA GGAGCAACTT TAGCATTCTA TGCGTTGACA AATTCATTGG AAAGCTTGTT      1740

TCCTTATAAA CCAATTCTAA CAATTGAGAT AGTGGCTCTG ATGAAAAATT TTCAAATGGC      1800
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1139

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CATTCTAGGA  AATAATATTT  TTCTGAAAAA  TATTGTGCAA  AAAAGTAACG  AATGTCTCTC    1860

TCATTTCCAA  TGATTTGAAC  AGGGGTCAGA  CTAACTTCAA  ATTGAAATTG  CCTTTTAATC    1920

ACTTTATTGA  TTTGGCTAAT  AATACGATAG  AGCGAAGATG  AACTGATATA  AAATTCTTTA    1980

CAAATACTCT  CAGCTTGACA  ACCTTCATTA  AAGAAGATGA  ATTCTAAAAT  CGAAAAATGA    2040

GTTGAATGTT  TAAAGAAATG  ATGGTAAACC  ATTTCAATAT  CACTATCATC  GGTATTAATA    2100

ATGCGTATAC  CATTAGTAGA  AGAATGAAAA  ATCAAGTCAG  GAAAAGCAGA  TTTAACATGG    2160

GATAGATCAT  CTTTGACTGC  ACGTTCTGTA  CAATTTAATA  ACTCTGCTAG  TTCAGAACGA    2220

TGAAACCAAC  GTTTATGTTC  AAATAATAAT  TCTAATAATT  CTAATTGCCT  ATGACTTTTT    2280

TTAGATAATA  AATCTCTCAT  GAATATCTTT  CTCTCTTTAT  AAATTATCGG  ATTAAACCTC    2340

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TTATATAATA  GCAACAATTA  AAGAATTTGA  TTTTTTAAAA  TTATATAATA  ATAACAATCG    2580

AAATAATTGA  CTTTTCTATA  TTAAAGTTAT  ATAATAGTAA  TAATCAAAGA  AATTGATTTT    2640

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AAATCAATGA  CGGGAAAAAT  AGTTTAAATG  TTAAATCGAA  AGGATTGTAT  ATGTCAAAAG    3000

CAAAGAAAAT  ATGTTTCATT  ATTTTCTGTA  TTTTAATCTT  GACAATTTTC  CTTCCTGTTT    3060

TGATAGATTA  TCATCAAGTT  AGTGATCTAG  GTATTCATCT  ACTTAGCTGG  AGACAGAACT    3120

CCGTAGTTGA  ATTCTATCTT  GCTAGATATG  TCTTTTGGGG  GACAGTGGTT  CTATCAACTT    3180

TAGTTTTATT  ATCCATTTTA  GTTGTGATGT  TTTATCCTAA  ACGTTACTTG  GAAATCCAAC    3240

TTGAAACTAA  AAACGATACA  TTAAAATTAA  AGAATTCGGC  AATCGAAGGT  TTTGTTAGAA    3300

GTTTGGTGAG  TGATCATAGA  TTGATCAAGA  ACCCAACTGT  TCATGTAAAT  TTACGAAAAA    3360

ATAAATGTTT  CGTTCATGTA  GAAGGTAAAA  TTCTTCCTTC  AGACAACATC  GCTGACAGAT    3420

GCCAAATAAT  TCAAAATGAA  ATAACTAATG  GATTGAAGCA  GTTTTTTGGT  ATTGAGCGTC    3480

AAGTAAAACT  TGAAGTTGCA  GTAAAAAATT  ACCAACCAAA  ACCTCAAAAC  AAAAAGACTG    3540
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                                    1140
TTAGTCGTGT GAAGTAAGGA AGTAAAAAAT GGAATGGCTT AAACAATATC GATATCCAAT    3600

TATCGCTGGT CTCATAGGCG TATTTCTGGC TTGTTTGATT GTCTCCTTTG GCTTCTTCAA    3660

AACAATATTT GTATTGATTT TAGGAGCACT GGGAGTTGCA GCTGGATTAT ATATCGAAAA    3720

AAACTATATA GATAAATAAA AAAATAAAAA TTACTAATTT AATTAAAGGA GTTTCATATG    3780

TCAAACGAAA AAAACACAAA CACTAACGTA GAAAAGAAAG ATGCTACTGT TGTAGCTCAC    3840

GAAATCAAAG GGGAACTTAC TTACGAAGAT AAAGTTATCC AAAAAATCAT TGGTCTTTCA    3900

CTAGAAAACG TTTCAGGTCT TTTGGGAATC GATGGTGGTT TCTTCTCAAA TCTTAAAGAA    3960

AAAATCGTTA ACAGCGATGA CGTAACAAGT GGTGTTAACG TAGAAGTTGG TAAAACACAA    4020

GTTGCAGTTG ACTTAAACGT TATTGTTGAG TACCAAAAAA ATGTTCCAGC TTTATATTCA    4080

GAAATCAGAG AAATCGTATC TTCAGAAGTT GCTAAAATGA CTGACTTGGA AATTGTTGAA    4140

ATCAACGTAA ACGTTGTCGA CATCAAAACT AAAGAACAGC ATGAAGCAGA CTCAGTAAGC    4200

CTTCAAGATC GCGTATCTGA CGTTGCTGAA TCAACAGGAG AATTCACTTC AGAACAATTC    4260

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GGTGTAGAAG CTGTTAAAGG TGCAGCAAAT GGTGTAGTAT CTCACGAAAA CACTCGTGTA    4380

AACTAAGATA AAATAAATAT AACAGGAGAA ATTATCATGT CAGTAGAAGA AAAATTAAAT    4440

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GACGCTGTAG AAGGTGCTGT AGAAGGTGTT AAAAACATGT TGAGTGGCGA CGATAAATAA    4620

GGTTAAAAGT TACTTTATCT TTTTAGTAAT ATTAGTCAAA AGAGTCTGAG TCAAGATGAT    4680

TCTCAGAAAA CAAAAAGCTA GAGATTCCCA ATTGCGGAAC TCTAGCTTTT TAATTTTGCC    4740

TCTTTCTCTT ATTATATTTC AGCAGGTTGT TGGCCATGAG TACGAATCCC ATGTCAATTC    4800

TCACTTGACG CTTACCTCTC AGATGACATC TCTTATAACC CAAACAAACC TTTATCTGCC    4860

CAAAGACAGA TTTCATATCA ATCTTACGTT TAGCGAAAAT TTGTCTACCC TTGGAAGATA    4920

AAAGTGCCTG ATATTCTTTA GTTTTTAAAC ACTGGTAACG TTCATTCATA TACAGTCTCT    4980

TTTGAGGGGC TGATTCAGGT TCATAATCGC AGTCAACATT GATTTCAAGG CTGTTTGCTT    5040

TCTATCTCCC CGG                                                      5053
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(2) INFORMATION FOR SEQ ID NO: 188:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6492 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1141

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 188:

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AATTCTCTTT TTTCCAACAA AATGTATGAC CTGCACTTGA ATACTTCTCA TTGTTTGTAC        60

ATTCATCTAC TTTCATATAA TCTTTTACAA AATCATAATA TGACATAACA CACTATCCCT       120

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GATGTATAAT AGAAAAGCAA TGATAGATAT TATCAATTAA GCGAATTTAT ATCTAAAAGG       240

GATATTAAAG AAAGGAGATA TGCTTATGAA GATTTACAAA AAACTATTTG CTTATGTCCA       300

AGATAAGAAA TATCTTGGGG TTTTGGCCAT AATTTTTTCT GCTATATCTG CTGCACTTAC       360

AGTATATGGA TATTATTTAA TCTACAAATT TCTAGATAAG TTAATAATTA ATTCAAACTT       420

ATCCGGTGCA GAGAGTATAG CATTAAAATC TGTTATTACA CTAACAAGTG GAGCGATATT       480

TTATTTTGTC TCAGGAATGT TTTCACATAT CTTGGGATTC AGGCTTGAAA CAAATTTAAG       540

AAAAAGGGaA TCGATGGTCT GGAAAAAGCA AGTTTTAGGT TCTTTGACTT AAATCCATCT       600

GGTCAAATAA GAAAGATTAT AGATGACAAT GCTGCACAAA CTCATCAGGT GGTAGCACAC       660

ATGATTCCCG ATAGTTCTCA GGCAATAATC ACACCCGTAC TTGTACTTGC ACTTGGCTTT       720

ATAGTAAGTA TAAGAGTTGG CATAATTTTG CTTGCTCTTA CTATAATTGG TGGCTTAATT       780

TTAGGGGCAA TGATGGGCGA GCAAGAATTT ATGAAGATAT ACCAAGAATC CCTATCTAAA       840

CTAAGTGCTG AAACTGTTGA GTACGTGAGA GGAATGCAAG TTGTAAAAAT ATTTAAAGCA       900

AATGTAGAGT CTTTTAAAAG CTTTTATAAG GCGATAAAAG ATTACTCAAA GTATGCTTAT       960

GATTATTCCC TATCTTGTAA AAGGCCTTAT GTTTTGTATC AATGGTTATT TTTTGGACTG      1020

ATTGCAATTT TAATTATTCC TATAGTTTAT TTTATGACTA GCTTAGCTAG CGCAAAGGTG      1080

ATTTTACTTG AGCTTATCAT GATTTTATTT TTATCAGGAG TTCTCTTTGT TTCATTCATG      1140

AGAATGATGT GtACTCCATG TATATTTCTC AAGGAAATTA TGCAGTAGAT ACTTTAGAGG      1200

CGCTTTACGA AGATATGCAA AAAGACAAAT TAGTGCATGG TAATGTCAAT AATTTTAAAA      1260

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GCAAATCAAC AGTAGCAAAA CTTATATCAG GTTTTTACAA TGTTAATAAA GGAAGCATAA      1440

AGATAGGCGG GATAGCAATA AGTGAATATT CTGACGAAGC CTTAATTAAA GCCATTTCCT      1500

TTGTTTTTCA AGATTCAAAA TTATTCAAGA AGAGCATTTA TGATAATGTA GCGTTAGCTA      1560

ATAAAGATGC GACGAAAGAT GACGTTATGA GAGCCTTAAA ATTAGCAGGA TGCGATTTAA      1620
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1142

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TATTAGACAA ATTCCCAGAA AGAGAAAATA CAATCATAGG CTCAAAAGGT GTTTATTTAT        1680

CCGGTGGAGA AAAACAAAGA ATTGCAATTG CTAGAGCAAT TTTAAAGGAT TCCAAAATTA        1740

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CTTTTAAAAA TCTTATGAAG GATAAAACAG TTATCATGAT TGCACACAGG CTATCTACAA        1860

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AAAGGTTTCG ATACAGTTAT TGGTGAAAAC GGAGCTGAGC TATCAGGAGG AGAAAGACAA        3420
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1143

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ATAGTAGTTC TTCAAAACGG AAGAGTAGAA AGCGAAGGTA AGCATGAAGA GCTTTTACAA    3660

AAATCAAAAA TTTACAAAAA TTTAATAGAA AAGACAAAAA TGGCAGAAGA ATTTATTTAT    3720

TAGGAGGACT ACAATGGATA ATAAAAAATT AAAAGTAAAA GATTTAGTAA GCATCGGTGT    3780

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ATATATGGAG TGGTCTTTGA TGACTATGGG AAAAGATTAT GTTGATGTAT TAGAAAAGTT    4200

AATAACTTAT CCTCACATGG CTTTAGTAGC CTTAGGTGCT TTCTTAGGAG GAATTCTTGG    4260

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TCTCAATGCT TGTTTCAACT GTTTTTCAAA ATCCTAAGAC ATATTTTTTT AATGTCAATA    5100

CGACATTAGA ATTATTATTT TATTTGGAAA ATATCGGTCT TGCAAGAGAA GAGATGGACA    5160
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1144

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GGCGTTTGAA GGATATACTT GAGATATTCC CGATAAAAAA TCTTTTGAAC AGAAATATAT     5220

TTAATCTATC CGGCGGTGAA AAACAAATTC TTTGCATTGC AGCTTCTTAT ATAGCAGGTA     5280

CAAAGATTAT AGTTATGGAT GAGCCTTCAT CGAATTTAGA TATTAAAAGC ATAAGTGTTT     5340

TGGCAAAGAT GCTAAAGATA TTAAAAGAGA AAGGCATAAG CATAATTGTT GCAGAGCATA     5400

GAATTTATTA TTTGATGGAC ATAGTTGACC GTGTATTTTT AATAGATAAA GGAAAGCTTA     5460

AAAAAACTTA TACTAGAAGT GAATTTTTAA AGCTAGATAA AAATGAATTA AATGCTTTAA     5520

GTTTAAGAGA TAAAGAATTA AGTAAATTAA AAGTTCCTTA TTTAAAAGAA GGTGGAGAGT     5580

ATCAGATAAA AAATCTTAGT TACAAATTTA CTGATGATGA GTGTTTAAGC TTAAAAGATA     5640

TTTCGTTCAA GCTTGGGAAA ATTTATGGCA TAATAGGATC CAACGGACGA GGAAAATCAA     5700

CGCTTTTAAG ATGTTTAATA GGTCTTGAGA AAAAATCAAA AGAAGAAATT TATTTTAAGG     5760

GAGAGAAGCT ATCTAAAAAA GAAAGACTCA AAAACTCTTC ACTTGTTATG CAAGATGTAA     5820

ATCATCAATT ATTCACAGAT GAAGTATTCA ACGAGCTTAG ATTAGGAGTA AAGAATTTTG     5880

ATGAAGAAAA GGCGAAAATC ATTTTAAACC CCAATTATTC ACCCCAAATC TAAAAACCAT     5940

CCAGAATCCT TGCCTTAGCT TAGATCCTGG ATGGTTTCTT TTTTCACCCA ATGGGTGTTT     6000

TTTACTAGAC AAAAAAGAGT TTCCCCTTTA TGGTATAAGT GTAGAAAAAA ACACAAAAAG     6060

AAAGGAAACT CACATGAACA GTTTACCAAA TCATCACTTC CAAAACAAGT CTTTTTACCA     6120

ACTATCTTTC GATGGAGGTC ATTTAACCCA GTATGGTGGT CTTATCTTTT TTCAGGAACT     6180

TTTTTCCCAG TTGAAACTAA AAGAGCGGAT TTCTAAGTAT TTAGTAACGA ATGACCAACG     6240

CCGCTACTGT CGTTATTCGG ATTCAGATAT CCTTGTCCAG TTCCTCTTTC AACTGTTAAC     6300

AGGTTATGGA ACGGACTATG CTTGTAAAGA ATTGTCAGCT GATGCCTACT TTCCAAAATT     6360

GTTGGAAGGA GGGCAGCTTG TTCACAGCCA ACCTTATCCC GTTTTCTTTC CAGAACTGAC     6420

GAGGAAACAG TCCATAGTTT GCGATGCCTC AACCTTGAAT TGGTCGAATT CTTTTTACAT     6480

GTTCACCAGC TG                                                       6492
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(2) INFORMATION FOR SEQ ID NO: 189:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 7174 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 189:

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AACTGAAGGT AAAGGCTTCG ACGCAGAACG TGACGCTGCC CAAGCTGCCC TTGATGACCT     60
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1145

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TAAGAAAGCT CAAGAAGACA ACAACTTGGA CGACATGAAA ACAAAACTTG AAGCATTGAA        120

CGAAAAAGCT CAAGGACTTG CTGTTAAACT CTACGAACAA GCCGCAGCAG CGCAACAAGC        180

TCAAGAAGGA GCAGAAGGCG CACAAGCAAC AGGGAACGCA GGCGATGACG TCGTAGACGG        240

AGAGTTTACG GAAAAGTAAG ATGAGTGTAT TGGATGAAGA GTATCTAAAA AATACACGAA        300

AAGTTTATAA TGATTTTTGT AATCAAGCTG ATAACTATAG AACATCAAAA GATTTTATTG        360

ATAATATTCC AATAGAATAT TTAGCTAGAT ATAGAGAATT ATATTAGCTG AACATGATAG        420

TTGTATCAAA AATGATGAAG CGGTAAGGAA TTTTGTTACC TCAGTATTGT TGTCTGCATT        480

TGTATCGGCG ATGGTACCAG CTATGATATC ATTAGAAATA CAAACATATA AATTTGTAAT        540

ACCGTTCATA ATTGGTATGA TTTGGACAGT AGTTGTATTT CTTATGATCA ATTGGAATTA        600

TATAGGCAAA TACTAAGAAG AGACAAAAAT ATATAAATAT TTCTGTACTT ATAGGATATT        660

TAAAATCAAA ATAAAGTTAA TTTACTTATT TGCAGAGGTT GCAACCCAGC CTCTGTTTTT        720

CGATAAAAAG GGACGGAATC TCATTTGTTT GGGTTTTGTC TCATCAATAG AAAGGAACAA        780

AGAGTGTTCG TAACTGAACA CGGGTTTCAG AATTTCTTAC TAAATATAAA AGAAAGGAAT        840

TGAACCCGAC CTAAATGGTG GTTCGATTCA GAACATCAAT AGAAAGGAAT AAGGGTGTTC        900

GTAACTGAAC ACGGGCTATG GACTGTGCCA AAAAGATAGT TTTTTCTAGG ACGTAAGCGT        960

CCGTCGTCAA AACTCCTAGA TGGCTGTGTC CGTTTGACGC CCTTTGTATC TTGAATTATG       1020

AACAATACTG AATTTTATGA TCGTCTGGGG GTATCCAAAA ACGCTTCGGC AGACGAAATC       1080

AAAAAGGCTT ATCGTAAGCT TTCCAAAAAA TATCACCCAG ATATCAACAA GGAGCCTGGT       1140

GCTGAGGACA AGTACAAGGA AGTTCAAGAA GCCTATGAGA CTTTGAGTGA CGACCAAAAA       1200

CGTGCTGCCT ATGACCAGTA TGGTGCTGCA GGCGCCAATG GTGGTTTTGG TGGAGCTGGT       1260

GGTTTCGGCG GTTTCAATGG GGCAGGTGGC TTCGGTGGTT TTGAGGATAT TTTCTCAAGT       1320

TTCTTCGGCG GAGGCGGTTC TTCGCGCAAT CCAAACGCTC CTCGCCAAGG AGATGATCTC       1380

CAGTATCGTG TCAATTTGAC CTTTGAAGAA GCTATCTTCG GAACTGAGAA GGAAGTTAAG       1440

TATCATCGTG AAGCTGGCTG TCGTACATGT AATGGATCTG GTGCTAAGCC AGGGACAAGT       1500

CCAGTCACTT GTGGACGCTG TCATGGCGCT GGTGTCATTA ACGTCGATAC GCAGACTCCT       1560

CTTGGTATGA TGCGTCGCCA AGTAACCTGT GATGTCTGTC ACGGTCGAGG AAAAGAAATC       1620

AAATATCCAT GTACAACCTG TCATGGAACA GGTCATGAGA AACAAGCTCA TAGCGTACAT       1680

GTGAAAATCC CTGCTGGTGT GGAAACAGGT CAACAAATTC GCCTCGCTGG TCAAGGTGAA       1740

GCAGGCTTTA ACGGTGGACC TTATGGTGAC TTGTATGTAG TAGTTTCTGT GGAAGCTAGC       1800
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1146

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GACAAGTTTG AACGTGAAGG AACGACTATC TTCTACAATC TCAACCTCAA CTTTGTCCAA     1860

GCGGCTCTTG GTGATACAGT AGATATTCCA ACTGTTCACG GTGATGTTGA ATTGGTTATT     1920

CCAGAGGGAA CTCAGACTGG TAAGAAGTTC CGCCTACGTA GTAAGGGGGC ACCGAGCCTT     1980

CGTGGCGGTG CAGTTGGTGA CCAATACGTT ACTGTTAATG TCGTAACACC GACAGGCTTG     2040

AACGACCGCC AAAAAGTAGC CTTGAAAGAA TTCGCGGCTG CTGGTGACTT GAAAGTAAAT     2100

CCAAAGAAAA AAGGCTTCTT TGACCATATT AAAGATGCCT TTGATGGAGA ATAATACTCT     2160

TCGAAAATCT CTTCAAACCA CGTCAGCGTT GCCTTGCCGT ATATATGTGA CTGACTTCGT     2220

CAGTCGTATC TACAACCTCA AAACAGTGTT TTGAGCAGCC CGTGGCTAGT TTCCTAGTTT     2280

GCTTTTTACT TTATAGATTT TTTAAGACTT TCCTAAGTAA TGACGGACGG TAGTGACCTC     2340

CTTCGAAGTT CCATACCTAA ACTTTGAACC TAAGTTTTAA AGTTTCCGGA CAGCTGAAAC     2400

CAAGCTGTTT CAGGTGTTTT CATTACGGCA GAAAGTCTTC GATTTAGTTG TGAAATGGTG     2460

AATGATACTC TTCAAAAATT TCTTCAAACC ACGTCAGCGT CGGCTTGTCA TGGGTATGGT     2520

TACTGACTTC GTCAGTTCTA TCCACAACCT CAAAACAGTG TTTGAGCTGA CTTCGTCAGT     2580

TCTATCCACA ACCTTAAAAC GGTGTTTTGA GCAGTCTGTG CCTAGCTTTC TAGTTTGCTT     2640

TTTGATTTTT ATTGAGTATG AATTACCTAA ATTATGATGC ATAGTTGATG GGATATATAT     2700

AATAGATTGA AATAGAATAT GAACAAATTG ATAAGAGGAT TTTAAAGTAA TCTCTAACAA     2760

TGCTTTAGAA ACTATGGTGT GCTATTCTAA ATTCAATTCA CTATAACTTG TTTACGTTTT     2820

AAAAAAGAGC CGTCGGGCTC TTTTTACTTA TCTTCAGTTC CCTGCATTTC TTTTATCACA     2880

GCTAGTCTAG TCTGGATATC CTTTTCCAAG ACCTTAAACT TGTAAGTCAA GTCTTCTTGG     2940

TATTCCTTGA TAAGTTCTTT TTGCTGGTTA ATGATTTGCA GGCTGTTTTG GATAATATCC     3000

ACATCGTCCT TGATAGCTTG AACGCGGTCA GTGGTATTCA AGACTTCATC TGTGATGGTT     3060

TGGCGATTTT TTGTAACCAG ATAACTTCCG GCTGCAGCTC CTGCAAATAG CAGTAGGTTG     3120

GATAATTTCA TAGCAACTCC TTAAGCGTTT TTGATGGTTT CAGCGACTTG AGCAAGTTTG     3180

TCAAAGTCTG GTTCGTGGGC GATAAAATCA ATCTTGAGGT CATCGTCAGC ACTGTAGCGA     3240

GGCACAAGGT GAACGTGAGT ATGAAAAACT GTTTGACCAG CGACTTCTTC ACAGTTGGAA     3300

ATGATATTCA TACCAGCAGC CTTAGTGACT TTCATGACTT TTTGAGCTAC TTTTGGTACT     3360

TGGGCAAAGA GTTGGCTGGC GCTCGTAGCA TCCATCTCCA AAAGATTGCG ATAGTGTTCT     3420

TTTGGCACGA CCAAGGTGTG TCCTAGTGTT ACTTGAGAGA TATCAAGAAA GGCAAGGACC     3480

TGCTCATCTT CATATACTTT TGAAGCAGGA ATTTCCCCTG CGATGATTTT ACAAAAAATG     3540

CAATCTGACA TAAAATCTAC CTCTACTGTA CTGAATTTTG ATATAATATA GCTACATTAT     3600
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1147

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ACCAGATTTG GAGAAAATAT GTTAGAAATT AAAAACCTGA CAGGTGGCTA TGTTCATGTT    3660

CCTGTTTTGA AAGATGTGTC CTTTACTGTT GAAAGTGGGC AGTTGGTCGG TTTGATTGGT    3720

CTCAATGGTG CTGGGAAATC AACGACGATC AATGAGATTA TCGGTCTGTT GGCACCTTAT    3780

AGTGGCTCCA TCAATATCAA TGGCCTGACT CTGCAAGGAG ATGCGACTAG CTACCGCAAG    3840

CAGATTGGCT ACATTCCTGA GACGCCTAGT CTGTATGAGG AATTGACCCT CAGAGAGCAT    3900

ATCGAAACGG TTGCTATGGC TTACGGTATT GAGCAAAAAG TGGCTTTCGA ACGAGTAGAG    3960

CCCTTGTTAA AAATGTTCCG TTTGGAACAG AAATTAGACT GGTTCCCTGT TCATTTTTCA    4020

AAAGGGATGA AGCAGAAGGT CATGATTATC TGTGCTTTTG TGGTGGATCC AAGTCTTTTC    4080

ATCGTGGATG AGCCTTTCCT TGGTCTTGAT CCGCTGGCTA TTTCTGATTT GATTCAGCTT    4140

TTGGAAGTGG AGAAGCAAAA GGGCAAGTCT ATTCTCATGA GTACCCACGT GCTGGATTCG    4200

GCGGAGAAGA TGTGTGATGC CTTTGTCATT CTTCACAAGG GAGAGGTGCG TTCCAAAGGC    4260

AATCTCCTGC AACTACGTGA AGCCTTTGAT ATGCCTGAGG CTAGTTTGAA TGATATTTAC    4320

TTGGCTCTGA CCAAAGAGGA GGATCTATGA AAGACTTGTT TTTAAAGAGA AAGCAGGCCT    4380

TTCGTAAGGA GTGTCTTGGT TATCTGCGCT ATGTGCTCAA TGACCACTTT GTCTTGTTCC    4440

TGCTTGTCCT GTTGGGCTTT CTAGCCTACC AGTACAGTCA ACTCTTACAA CATTTTCCTG    4500

AAAATCATTG GCCTATCCTT TTGTTTGTAG GAATTACGTC TGTTTTACTT TTACTTTGGG    4560

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TTTTTCTGCT CTATGTGCTT TTATTGGGGG TAGGAAAATA TTTCCACTTT TGTCAAAAGG    4800

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GGAAGATTTG GCAAAATCTC TATCTGCGTT CTTATCTGCG AAATGGCGAC CTCTTTGCTC    5040

TCAGTCTTCG TCTTCTCTTG CTTTCCTTGC TGGCGCAGGT TTTTATCGAG CAAGCTTGGA    5100

TTGCGACAGC AGTGGTAGTT CTCTTTAACT ACCTCTTGCT CTTCCAGTTG CTGGCCCTCT    5160

ATCATGCCTT TGACTACCAG TATTTGACCC AACTCTTTCC GCTGGACAAG GGGCAAAAGG    5220

AAAAAGGCTT ACAGGAGGTA GTTCGAGGAT TGACCAGTTT TGTTTTACTT GTGGAATTAG    5280

TTGTTGGGTT GATTACCTTC CAAGAAAAAC TAGCCCTTCT AGCCTTACTA GGAGCTGGTT    5340
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1148

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TGGTTTTACT AGTCTTGTAT TTGCCTTATC AGGTAAAACG TCAGATGCAG GACTAACATT      5400

GCTGATACGA CACTAAAAAA GAAGTTGAGT TCAGTCTGTC TCAACTTCTT TTTTGTTACT      5460

ACAGGATAAT GGTTGGTCCG TAGAGACTTA TACTCTTCGA AAATCTCTTC AAACCACGTC      5520

AGCGTCGTCT TACCGTACTC AAGTACAGCT TGCGGCTAGC TTCCTAGTTT GCTCTTTGAT      5580

TTTCATTGAG TATTAACTTG GTCTTGACTT GGTCAAAGTG GAAGCGGTCA TAGGCCCGCC      5640

AAGCGGCGCG AGTTGGAGCA TCTGGATCAA GAGCGCTGAG TCCCATGAGA AGACTGGAAG      5700

TCTGGTAAAA TTTTTCTAGT TCAATCAAGA ATCGATTATC CACTGTTTCA GCCTTGGCTA      5760

GAAAACCAAG AATAGAGTTT AATTGCTCCT GAAAGCGGAC GTCGTCAGCG CTTGCCTGTT      5820

TGCATGCTTG GTAGGCTTTG TTTAAGTCAG TAATCAAAGT ATGAGCTCTT TTGATGGGGT      5880

CTGTATCTGT CATGGGAATG CCTCCTTTAA TCTGGGTGCC AGTCTTACTT CTGGCAACTG      5940

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TCATTGAAAT GTCTTGAATT GCGCTGAGTG AATTTTATGA TAAAATAGTT GTAAGCTCAT      6060

CATGATGTTG TAGAAAATAA TCCTTTTAGG AGTTTTCAAA GACTGTTTAG GATTGGGTGT      6120

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CTCGGAGAAG AAGGTCAATA CGCTGTCAAG TATGCCAGAC GTCGCTATAG AGAAATTCGT      6480

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TTCCCAACAG ACTAGAATTG AAACGACGAT TGAGAAACTT TTGAAAGCAC ATCATATCAT      6600

TCCTAGCTCT TTTGAGGTAT TTGGCAAGCC GGACCAACTG CTGGCTGAAG TGCATGAGAA      6660

GGGGGCCCAT CAGCTATTCT TTTTGGATAT TGAGATTCGA AATGAAGAGA TGAAGGGACT      6720

GGAAGTGGCT AGAAAGATTC GGGATCGGGA TCCTTATGCC CTGATTGTCT TTGTGACGAC      6780

TCACTCGGAG TTTATGCCCC TGTCTTTTCG CTACCAAGTG TCTGCTTTGG ACTACATTGA      6840

TAAGGCCTTG TCAGCAGAGG AGTTTGAATC TCGGATCGAG ACAGCCCTCC TCTATGCCAA      6900

TAGTCAAGAT AGTAAAAGTC TGGCGGAAGA TTGCTTTTAC TTTAAATCAA AATTTGCCCA      6960

ATTTCAGTAT CCTTTTAAAG AGGTTTACTA TCTCGAAACG TCGCCCAGAG CCCATCGTGT      7020

TATTCTCTAT ACCAAGACAG ACAGGCTGGA ATTTACAGCG AGTTTAGAGG AGGTTTTCAA      7080

GCAGGAGCCC CGTCTCTTGC AGTGCCACCG CTCTTTTCTC ATCAATCCTG CAAATGTGGT      7140
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1149

GCATTTGGAT AAGAAAGAAA AACTGCTTTT CTTT   7174

(2) INFORMATION FOR SEQ ID NO: 190:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3207 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 190:

CCACCAGGGA AAATCATTGA AGTTGGTAGT CACCAAGAGT TAATGCAGGC GCAAAGTTTC   60

TACCATCATC TATTCAATAA ATAAGGAGAA TGTCATGAAT CCTAATCTTT TTAGAAGCGT   120

CGAGTTTTAT CAGAGACGTT ACCATAACTA TGCGACAGTG TTAATTATAC CTCTTTCATT   180

ACTATTTACT TTCATCTTGA TTTTCTCCCT TGTTGCCACA AAAGAAATTA CTGTTACTTC   240

CCAAGGAGAA ATCGCCCCTA CAgTGTCATT GCCTCCATTC AGTCAACCAG TGATAATCCT   300

ATCCTAGCTA ATCATTTAGT GGCAAATCAA GTAGTTGAAA AAGGGGACTT ACTCATCAAA   360

TACTCTGAAA CAATGGAAGA AAGTCAGAAA ACTGCCTTAG CAACTCAATT ACAAAGACTT   420

GAGAAGCAAA AAGAAGGACT TGGAATTTTG AAACAAAGCT TAGAAAAAGC GACTGATCTT   480

TTTTCTGGCG AGGATGAATT TGGCTACCAT AATACCTTTA TGAATTTTAC TAAACAATCC   540

CATGATATTG AACTGGGTAT CACAAAGACT AACACCGAAG TTTCAAATCA AGCTAATCTT   600

TCCAATAGCA GTTCATCAGC TATTGAACAA GAAATTACAA AAGTTCAACA ACAAATTGGA   660

GAATATCAAG AGTTGAGAGA TGCTATCATA AATAACAGAG CACGCTTACC AACTGGCAAT   720

CCGCACCAGT CAATTTTGAA TCGTTATCTT GTAGCCTCAC AAGGACAAAC ACAAGGAACT   780

GCAGAGGAGC CATTTTTATC TCAAATTAAT CAAAGTATTG CAGGTCTTGA ATCATCTATC   840

GCAAGCCTCA AAATTCAGCA AGCTGGTATC GGAAGTGTAG CAACTTATGA TAACAGTTTA   900

GCAACCAAAA TTGAAGTACT CCGCACTCAG TTTTTACAGA CAGCCTCACA GCAACAACTA   960

ACTGTGGAGA ATCAATTAAC AGAATTAAAA GTACAACTAG ATCAAGCCAC ACAGCGTTTG   1020

GAAAACAATA CCTTAACCTC CCCAAGTAAA GGTATCGTTC ATCTGAACAG CGAATTTGAA   1080

GGTAAAAATA GAATTCCAAC TGGTACAGAA ATTGCTCAAA TATTCCCTGT CATCACAGAT   1140

ACAAGAGAAG TACTAATCAC TTACTACGTA TCTTCTGACT ATCTACCTCT ACTAGATAAA   1200

GGACAAACTG TAAGATTAAA ACTGGAGAAG ATTGGAAATC ACGGCACCAC CATCATCGGC   1260

CAACTTCAGA CAATTGATCA AACTCCTACC AGAACAGAGC AAGGAAATCT CTTTAAATTA   1320

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                                          1150
ACCGCTCTTG CAAAACTATC TAACGAGGAT AGTAAACTCA TCCAATATGG CTTACAAGGT    1380

CGCGTCACTA GTGTAACTAC AAAGAAAACA TATTTTGATT ATTTCAAAGA TAAAATTTTA    1440

ACACATTCTG ATTAATTTTC AGATAACACT CTATAACTAT TTATTATCTT ATCAAAAAGG    1500

AGAATCATAA CATGGATAAG AAACAAAACC TAACTTCATT TCAAGAACTA ACAACTACCG    1560

AACTCAATCA AATTACAGGT GGAGGATTGT GGGAAGATTT ATTATATAAC ATTAATAGAT    1620

ATGCTCATTA CATCACATAA GAACTTCATC ATCCAATACA ACTATAAAAA AATAAGACCG    1680

AGAAACAAGT ACTCTCGGTC TTATTTTTCA TCATTCTGTA TGTATCACAG TAAGTACCTG    1740

ACGAAAGACT TGATTTTGAC AGGTGGTATT TAGACTGGTA TTAGGATGGC TTTCCACAAT    1800

CTTCATGACG GTATAGAGAC CAACTCCTCT CTCCTCCCCT TTAGAACTGG CTCCAAAGGA    1860

GAAGATTTCA GAAATATCGA TGCCCTCTTC TTTGATGGAG TTTTCGATGA TAAAGGTCTC    1920

CTGTGCTCCA TTTTTTAAAA AGGCGATTGA AACATGAGGT TGACTAGCTT CCACACTGGC    1980

TTCAATAGCA TTGTCACAAA GGATAGACAC AATGGTTAGA AAATCAAGTA GACTCATCCC    2040

CTCGACCTGA ATCCCTCAG GAACTTCGAC ATTAAAGACA ATGTTCTTAT CTCTGGCTTT    2100

TAAAAATTTC CCTGCTAGAA GACTTTTGAG GGCTTTATCA CGAATATTTA CCAATCTGCC    2160

CAGGTCATAT TTATTGTTCT GCAATTTCTG ACTGGAATCC TTTAAGACGG AGCCATAGAC    2220

CTCTTTTATC TGCTCCATAT CCTCCTCTTC AATGCCCAGA CGTAAGCTAG TCAAGAGGTT    2280

GGTATAATCA TGACGAAAGC TCCGTACTTC CTTGTAAAGC TCCTCTATAT GCCGACTATA    2340

GCGTTCCATA TCTCTATAGC GCAGGGCCTG CTCTTGTTCC AATCTCTCAT AGAGTTTTTC    2400

CTTCAAATAG GTATCCAATT TCTTGATAAC CCCCATAAAA AAGAGTAGGT AAAAGACTAG    2460

GATGAGATGG CGAACAGTCT TTGATTGAAT ACTTTGTTCA TATTCAAAAA AAGACAGACT    2520

TTCCATGACT AGATAGTAGC CACCCATTAT CCAGTTAATC TGAGTCAGGG ACTTTTGAAA    2580

GGCTTTATCG AGAATCTCCT TTCTCAAGCT AGTAAAATCG TAGTCCAACC ATTTCAAAAA    2640

AGCTAGAGAA ATGAAGAAAT TGAAAATTAT TATACATAAC CCAGTAAATG AGTAGCCATC    2700

ATATACTTGC CCTTGTCCCA AAAATGGAAG CACAAAATAG GAGACTCCTC TATAAAAGAG    2760

ATTCACCAAT ATCATTGGAA AGAGACCATA AAAGAAAAGG AGTTTTTTAG GAAGCCCTCT    2820

CAATAATAAG AAAGATAAGC CTATGCCGTA CAAGGGTTCC ATAAAATAAG ATAGGTAAAC    2880

ATTTCCTACT ATATAGCTAA TCATCACAAA AACAAAGGCC AACAGTATCT TCAAAAGAAA    2940

GGCCTTAAAA ATCCTCTCGA AAGTAAGATC AATTCCATCC ACCTTAAAGA AGATGACAAT    3000

TTCTAGTCCA TTAGTAACAA GTGTATACAA CAATATCCAA GCAATGTTCA TAAATTCTCC    3060

TAGCTCAGTG TAATTTATTG ATGGCCTCAG ACACTTCCCT GACCTATAA CGGGCGATTA    3120
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1151

GACAACTTCC ACCATTGGGA GAGAAGAGCA GTTTTTCTTT CTTATCCAAA TGCACCACAT   3180

TTGCAGGATT GATGAGAAAA GAGCGGT   3207

(2) INFORMATION FOR SEQ ID NO: 191:

    (i) SEQUENCE CHARACTERISTICS: .
        (A) LENGTH: 10357 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 191:

CTGAATCAAG TGTACTGCAC CAGTTCGTGC ATCAGGCATA ACAACATCTA CAGATATAAT   60

ATTGTTTTCT GAGTCCGCCT CATAAGTTAA AATCATAAAT TTTTCGATAT TCGAATTTTT   120

AGTAGCTTGT TCAATTTCTT GAATCATTTC ATCAGAAACT AACTCCATCT GAATTGGAAA   180

GGAATGACTA TTTTCATCAT TTTTGTAGGA AGAATGTTGA TTAAGATAAA GTGTATTCAT   240

CTGAGCATAT TCAAATAAGT AGCCACTCTT ATTTTTTTGT ACCAAAGGAA ATTGGTTTGT   300

AAGTCGCTTC TTACCCTTTA TAATTAACAA TACTTTCCCA TATTTTTCTG TATTTGTTTC   360

AAATTCTAAA TATCCCCAAG TCTGTCCTGC TAATTGTAAT TTATACTCAA ACAAATCTGC   420

TGATGCAAAT GCAGTATCAA TATGATTAGG TCGCGTCCAT GCATAACCAT TCGACACTAT   480

CATTGTCTCT CTTTTTTCTA GACGTTCATC TACATAATCT TTTTGCCCTT TCATCAAAGT   540

ATCTACAATT TTTTGTGCCT CAAGCGAATC AAAGAGATCC TGATTCAACA TAATTCTTCC   600

TCCTCCAAAT ACTTTTTAAT GAATTATACC ATTTTCTTAA AGAAATTACT ACAATAATTA   660

TCTTTTTCTT AAAGTTCTGT GTCAGAGTAA TTTAGAAAAT TATATCTTCT ATAGTAAAAT   720

CAATTAAAAA CTGAACAAAT TTATTGGGAA ATTCAAATCG CTTTCTGAAA ATATTTTAGG   780

AACCGTAGTG TAATATTCCA GATTCAATTC ACTATAAAAC TGACCTTTCT CCTGCAAAAG   840

AAAAAGGAAA GACTTCCTTT CGTGCCTTTC CTCTTACTTG CTACTTGTTT GATTATTTTT   900

GGTAAGCTAC TGCTTGTCTG ATAAAATCCT GAATCGGCTC TCCTTGGTGG AGAGCTTTTA   960

CTATTTTCGA ACCGACGATA ACACCATCTG ACACCGCATT GAAGCGTTCC AGATCGGCTT   1020

GACTAGATAC ACCAAAACCT GTCAAGACTG GGATGTCGGC CACTTGATGA AGTTGCGCCA   1080

AGTGCTTGTC CAAATCTGCA CGGTAATTGC CTGATTTCCC TGTCACTCCA TTGATGGCAA   1140

CGGCATAGAT GAATCCCTCC GCCCCTTCAA TCAACTCTTT CTGGCGCTCA ATTCCTGTGG   1200

TCAAGCTTAC TAAAGGAATC AAGGCGATAT CTGTATTTGC CAAAAATGGT TCTACAAAGT   1260

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                                  1152
TGGCATGTTC ATGAGGCAGG TCTGGGATAA TCAAGCCCTT CACAGCTGTA TCAGCCAGAT      1320

CTTTGACAAA GTTCTCCACA CCGTACTGAA AGAGGGGGTT GAAGTAGGTC ATGATGACCA      1380

GTGGAATCTC TGTTTCAATG GTTTTCAAGG TTTCAACTAA AGCCTGGGTA GAGGTCCCGT      1440

GGGCTAAACT GCGCAAGCCA GCTTCTTCGA TAACAGGTCC ATCTGCAACA GGGTCTGAAA      1500

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CAAGACCGTC CAAACCTTTC TCGTGGTCAC CAGCCATGAT ATAGGGAACA AAAATTCCTT      1620

TTCCAGCTGC TTTAATAGCA TTTAATTTTT CTGTTAGTGT CTTAGGCATG AGCTTCTCCC      1680

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CCTGATAGGC AGACAATCAT AGACTTTTCT GGTCCAAGTT CTTTGGCCAA TTTCACCGCA      1800

AAGGCGATAG CATGGCTAGA TTCCAAGGCT GGGATAATCC CTTCCACACG AGACAAGAGT      1860

TGGAATCCTT CCAAGGCTTC TTCGTCTGTC ACAGGGACAT AGCTGGCACG TTTAATATCG      1920

TGGTAGTGAG AATGCTCTGG ACCGATACCA GGATAGTCCA AACCTGCTGA GATAGAGAAG      1980

GCTTCAAGAA TTTGACCATG GGCATCTTGG AGCACATCCA TGAGGGAACC GTGAAGGACA      2040

CCTGGACGAC CCTTGGTCAA GGTAGCTGCG TGGTGCTCTG TATCCACACC AAGCCCTGCT      2100

GCTTCAGTTC CATACATAGC TACTGACTCA TCTTCTACAA AGGGATGGAA GAGCCCGATA      2160

GCATTCGACC CACCACCAAC ACAGGCTACT AGGGCATCTG GCAGATCTCG ACCTGTCAAG      2220

TCACGGTACT GTTGTTTAGC CTCTCGACCG ATGACACTTT GGAAGTCACG AACGATTTCT      2280

GGAAATGGAT GAGGCCCCAA GGCAGAACCA AGGATATAGT GGGTATCGTC GATATTAGCC      2340

ACCCATGAAC GAAGGGCTGC ATTGACCGCA TCCTTGAGCA CGCGCGAACC ATCTGTTACA      2400

GCCTCGACCT TGGCTCCCAA AAGCTCCATG CGGAAGACAT TGAGGGCTTG GCGTTTGACA      2460

TCTTCCTCAC CCATGTAGAT GGTACATTCC ATGTTAAAGA GGGCTGCAGC AGTTGCAGTT      2520

GCCACACCGT GCTGACCAGC ACCCGTTTCT GCGATAATTT TCTTTTTACC CATGCGTTTG      2580

GCAAGCCAAA CTTGTCCTAA GGCATTGTTA ATCTTGTGGG CTCCTGTATG GTTAAGGTCT      2640

TCCCGTTTGA GATAAATCTT GGCTCCGCCA ATATGCTGGG TCAAGTTTTT TGCGTAATAA      2700

AGAGGAGTTT CACGTCCTAC GTACTGGCGC AAAAGCTGGT TTAATTCCTC TTGGAAACTT      2760

GGGTCTGCCT GACTTTCACG GTAGGCCTTC TCCAACTCCA AAACTGCTGT CATCAATGTT      2820

TCTGGGACAA AACGTCCGCC GAATTTTCCG TAAAATCCAT CTTTATTTGG TTCCTGATAT      2880

GCCATGCTTT ACCCTCTCTA TAAATCTTCT AATCTTTTCA TGATCTTTTT GTCCATCTGT      2940

CTCCACTCCG CTCGATACAT CTACTGCATA GGGAGTAAAG TGTTGAATTG CTTTTACTAC      3000

ATTATCTTCA TTAAGGCCAC CTGCGATAAA GAAGGGCTGT GCTAGTCCAG TCGTATCCAG      3060
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1153

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TTGACCCCAA TCAAAGGGCT GGCCACTTCC TGCCACAGGG GCATCAAAGA GTAGATAATC    3120

TGCCTGAGAA TTGGGGACAT GCCCATTTCC ATCTACCTGC ACAGCCTGAA TACTGGCACA    3180

AGGCAAATTC TCAAATAAAT CATCTGCCAC CTGACCGTGA ACTTGAACCA AGTCCAAGCC    3240

AACTTTGTCA ATCGCTTCCA GCAGTTCTAC CCGACTTGGT GAAACAAATA CTCCAACCTT    3300

TTTCACATCT GCAGGAATAA GCTTTGCCAA CTCAGCTGCC TCTTCTAAAG TCACCTGTCT    3360

TTTACTAGGT GCAAAGACAA AACCGATATA GTCGGCTCCT GCTGAAACGG CTGTTTCCAC    3420

CGCTTCTTTG GTCGATAGTC CACAAATTTT AACCTTTGTC AATCTGCAAC TCCTTGATTC    3480

TCTGGGCCAC ATTTTCTGCC TGCATAAGAG CTGTCCCTAC CAAAATTCCG TTAAAGTATG    3540

GGGCTAGTCG TTCCGCATCC TGCCCTGTGA AAATGGCAGA TTCAGAAATG TAATAGCGAC    3600

CTTCCTCAAA GTAAGGGGCT AAATCTACAC TGGTCTGCAA GTCGACCTCA AAGGTAGTCA    3660

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CTAGATTGTG AGTCTCCACT AAGACTTCCA GACCAAGCTC TGTCGCGTAG TCATACAGTT    3780

CCTTGAGGCG TTCTTCGGAC AAGGCTGCCA CAATGAGCAA GATAACTGTC GCACCTGCAT    3840

TGCGAGCGCG GATGATTTGC TTTTCATCGA TGATAAAGTC TTTGTTGAGC GTCGGAATCT    3900

CTACCTGACT GGAAATTTCC CGTAGATAAT CCAAATGCCC TTTAAAGAAA ACCTCATCTG    3960

TCAACACCGA AATCATCACT GCTCCGTTTT CTTCATAAGT CTGGGCCTGT TGCACAATAT    4020

CCACATCGAG ATTGATATCT CCCAAACTAG GGCTAGCTTT CTTGACCTCA GCGATTACCT    4080

GCAAGCGGTC CTGATGATTC TTCAAAAATT CTGCCAAGCG ATAGGTCTGG CGCAGAGGCT    4140

GGATTTGCTC CAGCTTCATC TGCTCCACCT CACGCGCCTT CTGCTCTAAG ATTCGTGCTA    4200

AAAATTCCTG ACTCATTTTT GGTACTCCTG TAACAGTCTG AGTTTTTCAA GGGCCTTGCC    4260

TCTAGCAATC ACTTGACGGG CCAAGGCAAC CCCTTCCTTG ATGCTATCAA TCTTACCATT    4320

AGCATAGAAA CCAAGACCAG CATTCAAGAC TGTCGTTTCC AAGAATGGAC TTGCTTCGTT    4380

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ATTTTCAAGA AGTGCAATCT TGGTTGTTCC GTTCAAGCCA GCTTCATCCA ACCCTTCTGG    4560

TCCAGCAACC ACGATGGCAC GTTTGCGACC CATATTTTTC AAAACCTGAG CTGTACTTTC    4620

TAGGAGTTCT GGACGACTAA TTCCAAGAAG CTGTGTTTCT AAAGCCATTG GATGAATCAG    4680

TGGACCAGTC AAGTTCATAA TCGTTGGAAT TCCCAATTCC AAACGAGCTG GCATGATGTA    4740

TTTCATAGCT GGGTGCATAT TTTTAGCGAA GAGAAAGACG ATTCCAGTTT TATCAAAGAC    4800
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1154

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CTTACCTAGT TCAGCTGGTT TGAGGTCAAG ATTGATTCCC AAGGCTTCGA GGACATCTGC        4860

GGAACCAGAT TTAGAAGATA TCGAGCGGTT ACCGTGTTTG GCCATGTGAA TACCGCCACC        4920

AGCCAAGACA AAGGCTGCAG TTGTGGAAAT ATTAAAACTG AAAGACTTGT CCCCACCTGT        4980

ACCACAGTTG TCCATGGCAT CATGAATCTC AGTTGGAATA TGCTGGGCAT GTCCTCTCAT        5040

GACTTGGGCA ATGGCTGTGC GTTCTTCAGG TGTTTCCCCC TTCATCTTAA GAGCTAAGAG        5100

GAGAGAAGCA ATCTGCGCTT CAGTTACACG CCCAGTTACG ATACGCTCAA TGACATCCGT        5160

CATTTCCACA CCTGATAAAT TTTCAAATTT TGCTAGTTTT TCAATAATCT CTTTCATCCT        5220

AGTTTCCTCA CTTTACAACC TCCTCGATAA AATTCCGAAT AGAAGACAAG CCGTCTGGCG        5280

TTCCAATGCT CTCTGGATGG TACTGGAAGC CATAAATCGG TAGGTTTTTA TGTTGAATCC        5340

CCATGATGGC TTGGTCATCA GTCGAACGAG CTGTCACTTC AAAGTCTTCT GGCATTTCCT        5400

CAATCAAAAT ACTGTGATAA CGCATGACCG CACGGCCATC CTCAATACCT TGATACAAAA        5460

CAGATGGCGC TTCAAAGTTG ATATTGCTCT GTTTCCCATG CATGACTTTT GGAGCCAAAC        5520

CTAGCTTACC ACCAAAGACT TCTGCAATGG CTTGGTGGCC CAAACAAATC CCAAGAATCG        5580

GCTTCTTGCC TGCAAAATCA CGAATCATGT CTTCCATCTT TCCAGCATCA ACTGGCCAAC        5640

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CATCATTTCT CAGAACCTGA ACTTCTGCAA AATTCCCAAT GTATTGGGCC AAGTTATAGG        5760

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AGATTTTGCT TTGTTAATGG TTTCTTGGTA TTCGTTTTGG GCGATAGAGT CGTAGACAAT        5880

CCCTGCCCCA GCCTGCACAT AGGCTCTTTG ATTTTTGAGA ATCATGGTTC GGATGGCGAT        5940

GGCCAAATCC ATATCACCCG TCGCAGACAA GTAGCCGATT GCCCCAGCGT ATACTCCCCG        6000

TTTTTCCGTT TCCAGTTCAT AGATACGTCT CATCGCTCGA ATCTTTGGTG CTCCAGAAAC        6060

GGTTCCAGCA GGAAGCGTTG CTTTCAAGGC ATCCATGGCA GTGAGTTCTG GAAGCAAACG        6120

CCCCTTGACT ACGCTGGTCA AATGCATGAC GTAGCGGAAG AGCTCCACTT CCATATACTT        6180

AGTGACTTGG ACACTGGTCG TTTCAGAGAT GCGGCCAATA TCGTTACGCC CCAAGTCTAC        6240

CAACATTCGA TGTTCTGCTG TTTCCTTCTC ATCAGAGAGG AGGTCAGTCG CCAAGGCCTT        6300

GTCTTCTTCA TCCGTAGCCC CTCTTGGTCG CGTCCCTGCA ATCGGATTGG TTGTCACGAT        6360

GCCATTTTTG ACAGAAACCA AACTTTCTGG ACTAGCTCCG ATGATTTGAT AATCCCCAAA        6420

ATCATAGAAA TAAAGGTAAT TAGAAGGATT AGTCACGCGG AGATTTCTGT AGAAGTCAAA        6480

TGGATTTCCA GTAACTTCTG CTGAAAAACG CTGGCTGAGT ACACATTGGA ACATATCTCC        6540

GTTACGAATC AAGTCACGAG CTGTTTCTAC CATTCCCTCA AACTTATGTG GAGCGATATG        6600
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1155

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CGGTTTGAAG TCTAACGGAG ATAGATCCAA ATCTTCAAAT TCATTTGGAG CAGGAATGCG    6660

TAATTCCTCA AGCACTTGGT TCAAGGATTT TTCCAAGGCC TCTTGACTGC GCTCACTATA    6720

AAGTGCATCC TCTATGACAT GTATCTTCTC CTTCTTGTGG TCAAAGACCA TATAGCTCTC    6780

ATAGACAAAG AAATGCATGT CTGGCGTCCC AATTGTATCC TCAGGGATTT GACCAATTTC    6840

TTCATAAAGC GAAATCATAT CGTAACCCAC AAAACCAATG GCTCCACCAC CAAAAGGTAG    6900

CTCTGAGTGG TGCTGACTCT TATGAATCAC TTCATAAAGG AAATCCAAGG GATCCCGATC    6960

AATCACTTGA CCATTTTGAT AGAGAACCCC ATTTTCAAAC TTAATCTCAA AAACTGGATT    7020

ATAGGCTAGG ATAGAAAAAC GAGCTGTTTC CTTGTCTCTC GGAATACTCT CTAAAATAAC    7080

CTTATGTTGC CCCTTTAAGC GCATATAAGC CAAGATTGGT GATAAGACAT CTCCATGAAT    7140

GATTCGTTCC ATTGTAATTT CCCTTTCAGT TCTACTTCTA GTCCGTGGTG ACTGTATGAA    7200

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GATTTCTCCT ATCTCTCATT CCTGTCTCAG ATATCTCCTG TAACAGGCTG TGCGATAAAG    7320

GGCACTCCCT TGAGAATGAT GTTTTCTTCT CTCGTTTCAG ATGAACCCAA CTTTACAGCT    7380

TTCTCTGCTT GTTTTCAGCA ACCACAAGCT CTCTGTGAGA GAAAGAACTG TAATTTTTCC    7440

ATCTATTATT TTTTAGCTTC TAGTAGTCTG CAATCGCAGC TAGGTCCTTG CCTCCACGAC    7500

CAGAGACATT GATGAAGAGA TGTTCATCTC GGTACACCTT TATACTCTTC GAAAATCTCT    7560

TCAAACCGCG TCAACGTCGC CTTGCCGTAG GTATGGTTAC TGACTTCGTC AGTTCTATCT    7620

GCAACCTCAA AACAGTGTTT TGAGCTGACT TCGTCAGTTC TATCCACAAC CTCAAAACAG    7680

TGTTTTGAGC TGACTTCGTC AGTTCTATCC ACAACCTCAA AACAGTGTTT TGAGCTGACT    7740

TCGTCAGTTC TATCCACAAC CTCAAAACAG TGTTTTGAGC AGCCTGCGGC TAGTTTCCTA    7800

GTTTGCTCTT TGATTTTCAT TGAGTATTAC TAGCTTTTTT CGTATTAGTC CAGCCTTTTT    7860

GTTTGCTTTT AGTAGTAGGC ATGGAGCTGT AGATAGAACT CAAGTTCATC AAAGCGACTT    7920

AAGGCCCTAA TAAAAGATAA ACCAAACGAC GGATAGAAAA AAGCCCACAC ACAGAATATA    7980

CTTCCGTGTG AGGGCGTTGG TAACGCGGTG CCACCTCAAT TATAAAGGGA CTATCCCTTT    8040

ACATCTCTGC CTTGTTTAAC AACAAGCTGC ACTGTAAGGT GTGCGCACCG AATTTTCATT    8100

GTTTCAAATT CATTTTCAAA ATCAGCCCAC TTTCACTACT TCCAACCACC TATTCACAAT    8160

CACCACAGGC TCCCTGAAGA TCAAAAATAG TTACTTTTCT GATTTGTTGA ACTTATTTTA    8220

ATACTTTGTT TTTTCTTTGT CAAGACTTTT TTACGATTTT TTTGAAAATA TCATTCGAAT    8280

ATGACCATGT CTTCCTTAGA TCGAACATGA ACATGTCCCA CTTCTTAGAA ATTGGATCCA    8340
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1156

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ACTCAATAGA AACTGAATGG AGGCTAAACA GAACTTATTT TAGAACACTC CATCTTTTCC      8400

ACTAGGATTT TCAAGAATTA AACAATACTA GAAACTCTGT CTCCTAACAA ATTTAGGAGA      8460

AACTTCAACA GATGTGACAC TTTCCCCTTT AATAATTGCT AAAACACCTT CTATCATTTC      8520

TTTAGCCAAT TTAACATAAT TGGGAGCAAT TGTAGACAAA GCTGGAGTAT AATACTGAGA      8580

AATAGGAATA TTATCAAATC CAATGATAGA AATATCATCT GGAATAAGAA TTCCTTTCTC      8640

ATAGCACGCA CGAATCAAGC CCTGAACCTT TTCATCTCCT GAAACAAAAA TAATGTCCGG      8700

ATAATTTTGG GTAGTCAAGT GCTGCATTGC ATAAGAATAA ACTGAATCAA TTGTAGATAA      8760

GCCATAAATG ACTTTTAAAT CCATAAAGTA ATTTTTATCA TTCAGAAAAG AACGCACACC      8820

TCTTTCACGA TCCTTATTAA CATGGGATTC TCCTCCCATA AGCAACCACA TATTTTTAAA      8880

TTTTTCTTCA GTTACAGCTT TCATCATATC ATAAGTAGCT TGAAAATTAT TATTAGATAC      8940

ATAGACTACT CCAGACGTTT GAGATTCACC GAAAACAAGA AAAGGCATAT GGTTCTTCTT      9000

TAAATACTGA ATTCTGATAT CATCTACACT TTCATAAAAA ACAATAACAC CATCTACTAG      9060

GCTACCTGTG CTTGATATAA TTGAATTACT AATTGTATCC TCCTCTCCAA AGTACTCAAC      9120

TATAGCATTA ACACCAAATT CTTTACACGT CCGTAACACT TTATCTAACA GCGTATGAAA      9180

CCAAATTAAA GGAAAGAGT CGATTTTTTT TACAGAAATC AATATATTTA TAGCTTCTTT       9240

TTTAGTTAAA TTTTTTGCAT ACGCATTTGG AATATACGAC AATTCCTCTA TAACTTTTTG      9300

AATCGCTTGA TAAGTTTCTT CTTTAACATT TACTCCACCA TTAATAACTC GTGAAACTGT      9360

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ATTTTTCATT TCAGTCCTCC ATTACGAACA TTCTAATATT ACTATACAAT ATTTAATTTT      9480

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AAATATTCTT CCCCTTCAAA AAAGTTTAAA TTGCATTTCA CACCTTTATT TTTAAGAATG      9600

TTTCCAACTT CACGACAAAT AAATTCATAT GAGAAAAAAC TGCCATAAAA TTGTAGATTA      9660

ACTTTTTCAG TAAAATGTGT AGGATTTATA AAAACATATA ATAGCCTGTC AATGTAACAT      9720

TTTAACATAG AGTTAATTTT TTCTTTAAAG ATAACATTTG TTATCAACTC ATCAGGAGGT      9780

AAATGAAAGG CAAACACCAT TTCACAAATA TCATAAAAAG AAATAAATTT GTATACTTGT      9840

ATCAAACAAT TATTATCAAA ATATTCTATT TTACCTAAAT CAAAATTGAT TTTATAATCT      9900

TTCATAAAAA CCTCTGAGCA AAAATCTACT CAAAAATTAG ATGATTAAAA CATCTAAAAA      9960

GCAAAGGAC AAAAACATCT GTCCCTTTGT TTACTAAATT TCAGCTAATT TCTTCGACAT      10020

AAATAACACC TACAATATTA GCAATTTCTT CCATCAGTCG AAGATGTTCA AATCTACCTG      10080

ATAATTCCAG AGTAATAAAT GACGCTATTT TTTTGTCCGG AACATCAAAG TATTCAATTC      10140
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1157

TGTCAGAATT AACATCTCCA AACGCTGTTC TTGAATCGGT CATTCTGATA CCATTTTCTG   10200

CACAATAAAC CAATACACGA TTATAGGCTT CTGTAGATTT AACCACTATA TACAATTCAA   10260

TCATTTTAGA ACGATTTTGC AGATATTTTT TTAGTGGTTG GAACATGGAT ATCACACCCC   10320

AAACAGAAAT GGCTACTAAA AGAGCTCCCT CATAAGG   10357

(2) INFORMATION FOR SEQ ID NO: 192:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 6867 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 192:

CGGGACATTC TCAATCTTCT GTCTTTTGTT TTTCTCTTCT TTCTATGATA CAATGGAAAA   60

AATAAATTCA AAAGGAGTTT TTTTATGACT TATCCAAATC TCTTGGACCG CTTCTTAACC   120

TATGTTAAGG TCAACACGCG CTCTGATGAA CACTCTACTA CTACTCCAAG TACACAGAGT   180

CAGGTTGACT TCGCAACAAA TGTCCTAATT CCTGAAATGA AACGTGTTGG ACTGCAAAAT   240

GTTTACTATC TACCGAATGG TTTTGCTATT GGAACCTTGC CAGCCAACGA TCCGTCTTTA   300

ACACGTAAGA TTGGTTTTAT ATCGCACATG GATACTGCTG ATTTTAATGC TGAAGGAGTC   360

AATCCACAGG TAATTGAAAA CTACGATGGT GGTGTGATTG AACTAGGGAA TTCTGGTTTC   420

AAACTCGATC CAGCTGACTT CAAGAGTCTT GAAAAATATC CAGGACAAAC GCTCATCACA   480

ACAGATGGAA CAACCTTGCT AGGTGCTGAT GACAAGTCAG GAATTGCTGA AATTATGACA   540

GCCATTGAAT ATCTAACTGC TCATCCTGAA ATTAAGCACT GTGAGATTCG TGTTGGTTTT   600

GGTCCAGATG AAGAAATCGG TGTTGGTGCC AATAAATTTG ATGCAGAAGA TTTTGATGTG   660

GATTTTGCCT ACACTGTTGA TGGTGGTCCA CTAGGTGAAC TTCAGTACGA GACTTTCTCA   720

GCCGCTGGTG CTGAATTGCA TTTCCAAGGT CGTAATGTCC ACCCTGGTAC TGCCAAAGGG   780

CAGATGGTCA ATGCCCTTCA GCTAGCAATT GATTTTCATA ATCAACTTCC AGAAAATGAC   840

CGACCTGAGT TAACTGAAGG TTACCAAGGT TTTTACCATC TAATGGATGT GACAGGTAGT   900

GTTGAGGAGG CGCGTGCAAG CTACATCATT CGTGATTTTG AAAAAGATGC CTTTGAAGCG   960

CGTAAAGCAT CCATGCAATC TATCGCTGAT AAGATGAATG AAGAACTTGG GAGCGACCGT   1020

GTCACTCTCA ACTTGACAGA CCAGTACTAC AATATGAAAG AAGTCATTGA AAAAGATATG   1080

ACTCCAATTA CCATTGCTAA AGCCGTTATG GAAGATCTAG GTATCACGCC TATTATCGAA   1140

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                                    1158
CCAATCCGGG GTGGAACAGA CGGCTCTAAG ATTTCCTTTA TGGGAATCCC AACTCCGAAT      1200

ATCTTTGCAG GTGGCGAAAA TATGCACGGA CGTTTTGAAT ACGTTAGCCT TCAGACTATG      1260

GAACGTGCAG TTGATACCAT CATTGGCATC GTAGCTTATA AAGGCTAAAA AGACGAGGTA      1320

GCTCAGCTAC TTCGCCTTTC TTTTTATTCT ACTGGTTTTT CTTGATTTCC AGTAGTTGTA      1380

GAAGATTCTG TTGTTTCATT TTCTGAAGTT GATTCAGCAG GTTTAGAATC TCTTGTATTG      1440

CTTGGTTTGT TTTCGTCGCT AGCAGTTTCA ATGTTAGATT CTGCAGTTGC GTTTGGTTGG      1500

TTCTCAGCAC TGGTGTTATC ACCATTTGCT TCAGCATTTC TTGCTGGACT TGTTTCTTCA      1560

CTTGCGCTAG CTTTTGACTG GATTTGATGA TTCAAAACTA GAATAGCTTT TGTCGATTCA      1620

AGTAAAGCTG TTTTGTCTTT ACTCTTAGCA GAAAGTTGAT CTAATAATGC ATCCACCTTA      1680

TCAAAGTCCG CATCAGATCC ATTATTACTT TCTAAATAAG AGTGAAGCGA CATGAGAATA      1740

TCGTAGAGTT TTTGATAGAG TACAAGTGTC TGAGGATCTT GCTCAGCATT TTCCTTTTCT      1800

TGTTGAAGGG CGCTAGCGAT ACGAGTCAAG ACATCTTTTA CCTGACTGTT TACTTCATCC      1860

AAGTCTGCAT CAGCCTTGTT TGTGGCAGCT TTTAGATTTT CTACTTCTTC TGCCAAGGAT      1920

TGTCTGATTC CTTCTTCATG GATTTGTTCC AAGAGTTGAT TTGCCTTGCT CAAAAGACTT      1980

TCTACTTCTT CCTTGCTATC TGTCGCAGAT TATTGGTTGC TATCTACCAT GTACTCCTAA      2040

AACAGGAGAG TTATAATCCA AGATTACAAG GCCTTACAGA AATAAGAAAT CCAGATAAGA      2100

CAATGTTCGT CCAAGACGCT ATTCGCTTCG CACAGCAGCA CGGATTCAAT ATGCTTTAAT      2160

TTTAAAGTTT AGGTGTCAAG ACCTCTTTTT AGTGTGCCCA AAATTTAGAG AAGTAATCAA      2220

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TCTTTGTAGA TGCTTCTGCT ATCAGCTAGA AGTTGATCTA CTTTTGCCAA GACTGCCTTC      2340

TCATCAAAAG TTCCAGGTTG ATAGTTGGAT TGCAGGGATG GAATCTTGTT TTTCAAAGCC      2400

GCTTCATATC CCTTAGTTTG AACCTTGATG TAGTGATTGT GGTCGCCATG AGGAATCACA      2460

AAACCTTCTG AATCTTCACT TATAATTCGA TTGGCATCAA AACCATGACC ATCTTCTTCC      2520

TCATGATGGA CATGTAGTGA CGGATTACTT AATACAGAAC TAGAAGAACT TCCTACCTCT      2580

TCCGTGTTAG AGTGTGATGG GGGATTGTTA AGAGATGACT TAGGAATATA GTGATAGTGA      2640

TCCCCATGTC TTACTATATA AGCATCACCT GTATCTCTGA CAATATCATT AGGGTTAAAG      2700

ACATATGTGG CTGCTAATTC ACCTGCCGAC AAGTCACTCT CAGGAATGAA ATGATAGTGA      2760

CCACCATGTG GTACTATAGT AGATTGAAAT AGAATATGAG CAAATTGATA AGGGGATTTT      2820

AAAGTAATTT CTAACAATGA TTTAGAAACT ATGATGTGCT ATTCTAAATT CAACTCACTA      2880

TATATAACCA TCATCGGTAG TATAACGTCC CTGTAATTTT GCTACAGATA CTTCTGCACT      2940
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1159

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AGCTCCTTTA TCGTCTTTAC CATGTTCTTG TTTTTGGCGA TTGATTTCAT CTTTTGTTCG     3000

TACATTTTCT GCATGAGCTT GATCTTTAAG GTAAACATAA TACTTTCCAT CTACCTTAAT     3060

AATATATCCT CCCTTAACCT AACTGACGAT ATCTTGATCT TTCGGCTGAT AGTTGGGGGC     3120

TTTCATTAAT AGCTCTTCAC TAAAGAGCGC ATCAAAAGGA ACTTTACCAT TATAGTAGTG     3180

ATAATGATCG CCATGAGAAG TTACATAACC TTGATCTGTA ATCTTAATAA CAATTTGTTT     3240

TGCTTGAATT CCTTCTTTTT GACTAACCTA GTCTGGAGTC AAATTTTCAG TCTTCTTAGT     3300

GTCTTTATTA CTGTTTACAT ATGAAACACG ATTTTTATCT GTATTGGCCT GTTAGCTATG     3360

TTGGTTCAGA GCATAAACAC ACAGACTTAA GGAAAGGATA ACAACAGATC CAGCTGCTAT     3420

ATATTTCTTT TTAAATTTCA TAATTACCTC ATTTCTATAA TTATTTATAT GATGTCTTCA     3480

TTATTAAATG ATTAAATAAA TTAATTAACC AATTAATTAA CTAGTAAATA TTCCACCTCT     3540

TTTTAAGTTG TATGTCAAGA AATTTTATAT ATTAATAATA AAATGAAATT CTCCCAAAGT     3600

CAGAGTTTTA TTTCTAACTT TTGAGAGAAC TTCATTTTTG ATTCAGACTT TTTCTACTGC     3660

TATTCCTTAC GCTATGAGAT CAGATAAATT CTTTTTTATC ACTTCTCCAC TTGGCAATCT     3720

TAATTCAATC GTTCCATCCA TATTGAATAT AACACTATCT AAGCCTAATC CGTAACTAGC     3780

TGTAAATTTT TCTAATTTTT CTTGTACAGG ATCTACTGCT GGAGCTTCCT CTAATGCTGG     3840

ATCTAACATA GGGTCACTCC CCACATTCCC TTCTGGATTC AACATTCCAT TATCCGTTGA     3900

GTTTTCTGGT TTTACAGGTT TTTCGTTTGG TGCCTCTGGT AAAGAATCTG CTGGTTTATT     3960

TTCTGTTGGT TGGTTCTCAA CTGTTCCAGT AGATACTTTT CCATTTTCAG ATGGTTTATT     4020

TTCACCATTT CCTTGAGGTG CTTCTCCTGT AAAATCTGCC ATATTCTTTT TAATGACTTC     4080

TCCCGATGGT AAATATAATT CAATTGTTCC GTCCATATTA AACAAGACAT TTTCTAGCTT     4140

CATCCCATAA CTTTCAGCAA ATTTTGCTAC TTTTTCTTGT ACAGGATCCA CTGTAGGAAC     4200

TTCTTCTAAC GTTGAATTAC TAGTACTATT CCCAGTTTCA GAAAGTTTTT CTTTTTCTAC     4260

CTTCTCACTA GTCTTTGGTT CTTCTACCTT TTCATCAAGT TTTAAGTTTT CTTGTGCTTT     4320

ATTCCTTTTA AATTGTGGTA GAATACTTGG TTTATCAGTT TGATTTTCTT TTTCCAAGAT     4380

AGGTACTTCC ACAATATAAG TCGATTGATT GTCCAAATAA GCATTTGCCA TGAAGGTTAC     4440

AGGAATTTTA TTTCCGGCCG TTCTGGTTGT TCCTTGGTTT AATTTCGGAA TCGGTAATTT     4500

GATTTCACCA ACTTTATAGT TATTTTCTAA ATAAGCATTT CCATGAAATT CATCAAACAC     4560

TCTGACTAAA GCATCAGTTC CTTTAGGCAC TGCAAATTGA GGGTTCACTC TTAAATAAGT     4620

ATCCCCTGCA TGGAAAGGAT AGAAAATCGT TTGACTGGCC ATTTTGTAAG CTAAAGAGGT     4680
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1160

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TGGAACTGTA AATGTACCAT CATAACTTAC TTCTGGATAA TCTTTTGAAG CGATAGTATA      4740

CTTAAATGTT TGTCCTGGTA AATAAGGTTG ATCTAATTCA AAGTTTGCAA TATTCCCTAC      4800

TCCTTCTCCA AATACTTTAC CAGATACTTT CTCCAATACT TTTCCATCTG GTGTTATTAA      4860

TTTTACTAGC ATATTGATAC CTAATTTTTT CTCCAATTCA GGCGGAAAAC TAAAAGAAAC      4920

GCGTTTTTGA CCATTGGCTA GAGTAAAGTT TTGATTATTA AACGTACTAT TTTTTAACAA      4980

ATTAACAACA TTCGTTAATT CTTCTCCAGT ATAAACTTTA TTCCCTTCTT TTTTAGCAAC      5040

TCCTTCTTCG GGTTTAAACA GTTCATAGTT ACTGTGAGAA TGACCAATTC CAACCGGTTT      5100

ATGTTCATCA ATCGGATCTG CATGATGGTG ATCTCCATGC GGATAAATAA TCGCATTTTT      5160

TTCTTTATTC ACGACAATAC TTTCACGTTT GACACCATAT TGTTTCATAA TGCCAGCAAT      5220

TTTTTCTTCG ATTTTTTTAT CTAAATCTTT CATTTCTTTG GCATTACTTG GATAATCCTG      5280

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TTGCGCAsCT TAATTTGCTC TTCTGTCAAG TCCTTCTTGA AGAAATAATG ATTGTGGTCT      5400

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TATCCATCTT CTTCATGTTT CTCATGTGAA GTTCCTGGAT TGATTGGAAG AGATGGAGAA      5520

GGTGTTGCTA GACTATTGTT TGGAAGAGTC GGTTGCCCAA TTTGATTTGA TTTTGGAATG      5580

TAATGGAAAT GATCACCATG TCTTACAATA TAAGCTGTAG CCGTTTCTTC AACGATATCT      5640

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GAAGGATTGC TTGAAAGACT GCCTAGACTA GACACTACTT CATTAGGTTT TGCATTTGTA      5760

GAAACTGTAG AACCAGTTCC ACTGATAGGC ACCATTCTGG CAATCTTTTC TTCTAAGGCA      5820

GAAAGCTTGC TGTAAGGAAT AAAGTGGTAA TGGTCGCCAT GCGGAATCGC AACTCCATTT      5880

GGTGTACGAC TGATAATCTT AGCAGGGTCA AAGACCAGGC CATCTGATTC ACTGTAACGT      5940

TGGGCGCTAG GTGAATCATA GAGTTCCTTC AAAAGACTCT GGAGATTTTC AGATTTATTT      6000

GCTGGCTTGC TAGTTGATCC TTTTGCTACA GATTGCGTGT TATTGTCACT AGCTGTTGAA      6060

GAATAGCTTA ACTGACTCGG TTGCATATTT TTTCCAGCCA GATGTGCTTT AGCTGCTGCT      6120

AATTCACTAG CAGATAAATC GCTTTTGGGA ATGTAGTGAT AGTGACCTCC ATGAGGAACG      6180

ATATAAGCAT TACCCGTATC TTCGATAATA TCAGCTGGAT TAAAGACATA ACCATCATTT      6240

GTCGTATATC GTCCCTGAGA CCTTGCTACA GCAACATTAG AGTTAACCTT CTCATTATCT      6300

TTGACATGTT CTTGTTTTTG ACGATTGATT TCATCTTTAG TTCGAACATT ATCAGCATGA      6360

GCTGCATCTT TCAGGTAGAC ATAATATTTT CCATCGACCT TGATGATATA ACCACCCTTG      6420

ACTTCATTGA CAATATCAGC GTCTTTAAGT TGATAGTTTG GATCCTTCAT CAAGAGTTCT      6480
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1161

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TCACTAAAGA GGGCATCATA AGGAACTTTC CCATTATAGT AATGATAGTG GTCACCGTGT    6540

GACGTTACAT AGCCCTGATC TGTAATTTTG ATTACAATTT GCTCAGCCTG AATTCCTTCT    6600

TTCTGGCTAA CCTGGTCTGG TGTCAAGTTT TCACTTTTCT GACTTGACTG GCTGCCATCC    6660

ACATAAGAGA CACGATTATT GTCCTTATTT TCCTGCGAAC GATGCTGGTT TAGTGCATAG    6720

GCACATAGAC TCAAGGATAC GATAACAGCT GATCCAGCTG CTATATATTT TTTACTAAAT    6780

TTCATAAATC CCTCATTTCA ATAAATGATG AAGTTTTTTC TCAACTTCTT TTACTTTATT    6840

AAATAGTTTT CTAAACCCGG GGGTACC                                       6867
```

(2) INFORMATION FOR SEQ ID NO: 193:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 999 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 193:

```
CGTTCTAAAA ATGCAGTACG TTTGATTGAG AAATCAGTTA AAGGTATGCT TCCACACAAT      60

ACACTTGGAC GCGCTCAAGG TATGAAGTTG AAAGTATTTG TTGGAGCTGA GCACACTCAC     120

GCTGCACAAC AACCAGAAGT TCTTGACATT TCAGGACTTA TCTAAGGAAA GGAACAATAA     180

AGTATGTCAC AAGCACAATA TGCAGGTACT GGACGTCGTA AAAACGCTGT TGCACGCGTT     240

CGCCTTGTTC CAGGAACTGG TAAAATCACT GTTAACAAAA AAGATGTTGA AGAGTACATC     300

CCACACGCTG ACCTTCGTCT TGTCATCAAC CAACCATTCG CAGTTACTTC AACTGTAGGT     360

TCATACGACG TTTTCGTTAA CGTTATAGGT GGTGGATACG CTGGTCAATC AGGAGCTATC     420

CGTCACGGTA TCGCTCGTGC CCTTCTTCAA GTAGACCCAG ACTTCCGCGA TTCATTGAAA     480

CGCGCAGGAC TTCTTACACG TGACTCACGT AAAGTTGAAC GTAAGAAACC AGGTCTTAAG     540

AAAGCTCGTA AAGCATCACA ATTTAGTAAA CGTTAATTCG AAAGAATTAC TATACTTATA     600

CAGAGCACCT TTCGGGGTGT TCTTTTTTTA TACTTTCTTA CTAAATTGGT GCAATTGACA     660

CAGTTGTTGC GACTTTAGTC GCTTACAAAT GTGGCTGCAA CCTGACATGG TCAGTTGCCT     720

CAAAACGTTA ATCAATACGA TTATATCAAC GTTTCAAAGC ACTCAAGGGT TTACCCTATG     780

GGTGCTTTTT TCTATACTTT CTAAAAAAGT TTACCCTAAA ATTTGCCCTA AAATTACCCT     840

ACTTATTTTT AAGATGTTGG TAGGCAACTT GTCCAGCAGA TAATGGAACT ATGTTTGAAG     900

TATTAACATA AGTCTTAGTT GTAACGGTAT CGCTATGAGT TAATGCTTCA GAAATGGCTT     960
```

<center>1162</center>
CTAAGCTCAT TCCTGCTTTT TTAGCAAGTG TCGCTCCTG   999

(2) INFORMATION FOR SEQ ID NO: 194:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2315 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 194:

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AATATTATCA CTGTTCTTGA AGGCAGAACA CAAGCTGTCA TCCGAAATCA CTTTCTTCGC     60

TACGATAGAG CCGTTCGTTG TCAAGTGAAA ATCATTACGA TGGATATGTT TAGTCCTTAC    120

TATGACTTGG CTAAACAGCT TTTTCCGTGT GCTAAAATCG TTCTAGATCG TTTCCATATT    180

ATCCAACATC TCAGCCGTGC CATGAGTCGT TTTCGTGTTC AAATTATGAA TCAGTTTGAA    240

CGAAAATCTC ATGAATACAA GGCTATCAAG CGTTACTGGA AACTCATCCA ACAGGATAGT    300

CGTAAACTCA GCGATAAACG TTTTTATCGC CCTACTTTTC GCATGCACTT AACAAATAAA    360

GAAATTCTTG ACAAGATTTT AAGCTATTCA GAAGACTTGA AACACCACTA TCAGATCTAT    420

CAACTCTTAC TTTTTCACTT TCAGAACAAA GACCCTGAGA AATTTTTCGG ACTCATTGAG    480

GACAATCTGA AGCAGGTTCA TCCTCTTTTT CAGACTGTCT TTAAAACCTT TCTAAAGAAC    540

AAAGAGAAAA TCGTCAACGC CCTTCAACTA CCCTATTCAA ACGCCAAATT GGAAGCGACC    600

AATAATCTCA TCAAACTTAT CAAACGCAAT GCCTTTGGTT TTCGAAACTT TGAAAACTTC    660

AAAAAACGGA TTTTTATCGC TCTGAACATC AAAAAAGAAA GGACGAAATT TGTCCTTTCT    720

CAAGCTTAGC TTTTCTTCAA CCCACTACAG TTGACAAAGA GCCTATTTTC GCTGATTCTC    780

CACTACATTT GACTGGATTC TAATTTTTTA GAGAAATACA AAAGAGCTAG CTTTAGCTAG    840

CTCTTTTCCT ATGCGGAGAG AGGGACTTGA ACCCTCACGA CCTAAAGCGG TCACAGGATC    900

CTTAGTCCTG CGCGTCTGCC AATTCCGCCA TCCCCGCGTC GATTACTTTA CTAGTATATC    960

AACTTTTGGG ATGCTTGTCA ACACTTTTTT TCAAATTTTT TCATTTTCAC CAACCAGGTT   1020

ACTCAAAAAG TTCATTTAGA TTTTCATCTA CTAACTTAGC TCCGAGTGTA TTTTTGAAAT   1080

GACCTAGGGC AAATTGATGA TTTTCAGGCC AGATGGAAGC AACAGCTGGT TTAACAATCT   1140

CGATGTCATA TCCTAGATTA TAGGCATCTA TAGCTGTATG TAGGACACAG ATATCCGTCA   1200

AGACACCTGT TAAGATAACG GTAGACACTC TACGCTCTCT CAAACGAATA TCTAGGTCAG   1260

TCCCTGAAAA AGCTGAGTAA TGGCGTTTAT CCATCCAAAA GACACGACTG TCTGAACCAT   1320

GCTCTTGATA AAGATCCCC AAATCTCCAT ATAAATTCCG TCCACTCGTC CCAATCAGAT   1380
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1163

TATGAGGAGG AAATAACTTA CTTTCCGGAT GGAAACAATC GTTTTCTTCA TGAGCATCAA   1440

TAGTAAAGAA GATATAATCT CCTCGTTCAA AAGCTAATCG AGTTACCTTG CTGATGGCAT   1500

CCGAAATCGC CTGAGCTGGA GCACCTGCTG TTAGTTTCCC ACTATCAGCA ACAAAATCTT   1560

CTGTATAATC AATCGAAATT AAAGCCTTTG TCATTAGTAA TCTCTTTTCT TCACTTCTTC   1620

AAAAATATCT GAAATCAAGA CCTTAAGATA GGTTCCCTTC ATTCCAAGTG AGCGACTTTC   1680

AATAATCCCC GCAGACTCAA GTTTACGAAG AGCATTGACA ATCACAGAGC GAGTGATTCC   1740

GATACGATCT GCAATCACTG ACGCAGTCAA CTTCCCTTCA TTTCCATTTA ATTCCCCTAA   1800

AATTGCTGAA ACAGCACGGA GTTCGGAGTA AGAAAGGGTA TTGACCGCCA TGGTGACAGC   1860

AGTACGACGA CGAATATTTT TCTCATCTTC TTCACGTTGG AAGTTAAGAA GCTGAATCCC   1920

AACAACGGTA CTGGCAATCT CAACAAGAAC CAAGTCCTCA TCTTCGAATT TTTTATCATT   1980

ACGCCAAATA ATCAAAGAAC CAAGGCGAAT CCCCGATACA TGAATCGGTG CAATAGTCGT   2040

CAAGCCATCT GGAAAATCAT CTCTACTCTC AATAGGGAAA ATACTCATAT CATGCTCAAC   2100

AGGCAAGTTT GCTTCTGTTT CGTAAATCAT ATTAGCCCCT TGAACGTAGT CATCTGGGAA   2160

AATCTTAGTT TGGAAGAATT GCTtACGCGA TCTGTATTTG TTTTATAACG CATAAAATAG   2220

CCAAGCAGAC GTCCCTTACT ATTGATAATG CAGGCATTGC AATGAATAAT ATCCGCTAAC   2280

TGACGCGTAA TAGCGTTGTA AGGGAGCTCA TCTCG   2315

(2) INFORMATION FOR SEQ ID NO: 195:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6693 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 195:

CGATTTCTTC CATTTCTTCA AATAAGAATA CTTCATCTGA CATATGTGTT ACCTTCTTCA   60

TCAAAAATTA TTTTGTAATC GATTACATTG CAGATCGTAA CATAAAGAAA AACAGATGTC   120

AAATATTAAA CGTAAAAACA TGGTCACTAA AGAACTATAA GAGAAAAGGT AAACCTAGCG   180

ACGCGATGAA CGCTGGGTCG TTTGGTTTCG ATTGCTCTCT TCCTCTTGTT TTTTCTGTTC   240

TTCTTCTTGT TTTTTCTCAG CTTCCTTGGC CTCTTGTTTG GCTTTTTCCT CAGCTTCCAT   300

AATTAATTTA TCCGCCACAG TGTAGCTGTA GATTCCAGCT TCCATGTCGA CCACACTCGG   360

TTCTGACAAT TGAGGCTTAA TCTTACTGTA ATATGGCAGT TTCTTACTCA TTTCAGATAG   420

1164

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AGGAACCAAG ACTTCGTCCG AATCATTCAT GGTCAATCGA ATTAAATCGG ATGTCACCTT      480

GCTTGGGGCT AATTCCACCT TTTGGATAGC CGCCTTGAGT TCTGGGCTAA TTTGAGCAAG      540

TTCTGAGACA AAAACTTTGA TTTGTTCACT ATCATTAAAG AGAACTGATA AATAAGTTTC      600

TGGTAAACTG TTCAGACTCA CAGAACTAGT CTCAAGCTGA CCACTGGAAA GAATAGGATA      660

ATGATTTTCA CCAGAAATAT AGTAGGCCAC AATATCATAT TCCTTGACCT TAATAGTGAA      720

CTTAGTTGGA AATTGATAGA CAAGTTGAGC TGATTCAACC CAATAGTTAG ACTTAATCTG      780

CTTTTCATAT TTTGCCTTGT CTAGCAGAAG GTTAATCGTA TAATCCGAAT CCTGAATGCC      840

TGAAGCCTGT CGAATATCAT CAGCTGTAGT TTGCACCGTT CCCTCAACAC GAATATCTTT      900

CATGGTCGCA TAAGGACTGA GCAAGTAGGC AGAGACAAAC AATAGAAGCA GACTTGGAAA      960

TAAAATCGTG AAGGCTCGCA AGATATGGAT ACCAGGAATC TTTGCTTTGG CTGGTTTTTC     1020

CTTTGTAGCC TTTTTAGCAA GCTTTTTATC CTGTTCCTCC TTCTCTTTAG ACTCTGGTTC     1080

TTCTTTCTCT TCTTTCTCTT TGTCAGCCTC TGAGGATGCT ACTTTTTCTT CAGACTCTTC     1140

CTTAGCTGAT TCTGAATCTT CCTGGTCTGT TTCACTCTCC TGGTCCTGTT TATCCTCTGA     1200

CTTCTCAGAT TCTTCTCCCA TTCGAGCTTG TCTTTCCTTT TCCTTCTCCT CAGCTAGAGC     1260

CGCCTCTTCT TCAGCCTTCT TTTTTAGATA TTCTTGGTTT CGTTTCTGCC ATTCTGATAA     1320

CTCTTTCAAT TCTTCGAGGG TTTCTTTGTC CTCATTTTTC TTATCTTTTG ACATTTACTT     1380

TCCTTATGAT AAATCTTTTT TCAACAATTG ATAAAAATCT GCTAGAGATT TCAATTCCTT     1440

AGAAGCTTTC ATCTTAGCTT GGTAATCTTC CTTGTGACTT AGTAAGTGAG AAAGCTTCTC     1500

TTCCAAACTA TCCAAGGTCA AATCGCTTTC TTGAAGGTCT TCTGCATAGC CTTTCTTAAC     1560

AAAGTAAGCT GCATTTTCAA TCTGGTCACC ACGACTAGCT TCACGACCAA GCGGCACAAT     1620

GACATGCAAT TTTGCTATCG CCAAGAGCTC AAAAATCGTA TTGGCACCAC CTCGTGTCAC     1680

AACAATATCA GCCAATTCCA TCAAGGGTTG ATAGAGATCG GTCACATAGT CAACACGAAA     1740

AAGATTTTGC CTCAACTCAT TCAGACTAGA ATCTCCAGTT AGATTGATAA TATTGTAGCG     1800

CTCTGTTAGT TCTTTCTTAT GGTCTGTCAC CAATTGGTTA AAGACACGAG CGCCTGCAGA     1860

ACCGCCAACA AACAATACAG TTGGCAATTT GGGATTAAAG TGGGTTTGAA TATCCACCAA     1920

TTCATCTGGT TCTGGAGTGT TTTTGTCCGA AACCTTGGTC ACCGCTCCCA CATGCTCAAC     1980

CTTAGCCAAA CTCGAAGCTT GTTCAAAGGT TGAATACATC TTAGTCGCAA ATTTATAGGC     2040

GATTTTATTG GCCAAGCCCA TAGACAGGTC AGATTCGTGA ATAAAGACAG GCACTCCTGA     2100

CACACGCGCA GCGATAACAG GCGGTACTGA GACAAAGCCC CCCTTTGAAA AAAGGGTCTG     2160

TGGACGCAGT CGCAACATGA TAAAGAGCGA TTGGACAATT CCCCAACCAA CTTTGAAGAC     2220
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1165

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GTCCAGCATA TTTTGCCAAG AGAAATAGCG ACGCAATTTT CCAGTCGCAA TAGAATGGAA    2280

GGTGACATCC AAACCTGACT TAAGGATTTC TTGGTGTTCG ATACCACACT TGTCCCCGAT    2340

ATAGTGGACT TCCCAACCAT CTTCGATGAA CTTGGGCATT AACAAAAGAT TGAGGGTAAC    2400

GTGTCCAACC GTCCCCCCAC CTGTAAAGAC AATTTTTTTC ATATTATTCT TTTAACTCCG    2460

CTACTGTGTC GATAAAGAGG TCGCCACGTA CTTCAAAGTT AGCATACATA TCCCAGCTAG    2520

CATTGGCAGG ACTAAGAAGA ACCACATCTC CTTGAGTCGC AAGCTCATAG GCCTTGCGGG    2580

TCGCATCTGC AATATCTGTC GCCTCCACAT AAGCGACACC AGCCTTGTCT GCTGCCCGTT    2640

TGACACGTTC TGCAGATTGA CCCAGGATGA CCATCTTCTT GAGTCCAGTA ATGTCTGGCA    2700

CCAATTCGTC AAACTCATTG CCACGGTCCA AACCACCTGC AATCAAGACG ACCTTGCTGT    2760

TGTCAAATCC TGACAAGGCT TTTTGAGTAG CCAAGATATT AGTTGATTTA CTGTCGTTAT    2820

AGAATTTAAC ACCCTTGATG TCATCCACAA ACTGGAGACG GTGTTTGACA -CCACCGAAGG   2880

CTGAAAGAGT TTCCTTGATG GTTTGATTGT CCACATCACG AAGCTTGGCT ACAGCAATAG    2940

TCGCAAGGGC ATTTTCCACA TTGTGGCTAC CTGGAACACC GATTTCATTC GCTGCCATGA    3000

CTACTTCACC ACGGAAGTAG AGTTGACCAT CTTCCAGATA AGCTCCATCA ACCTTTTCAA    3060

GTGTTGAAAA TGGTACAACA GTGGCTTCTG TCTTGGAAGT CAAGTCTTTT GCCAAGTCTT    3120

GATTAAAGTT CAAGACAAGG AAATCAGCTG CTGTCATCTT GTTCTGGATA TTCCACTTGG    3180

CTGCTACATA TTCCGAAAAT GACCCATGGT AGTCGATATG AGTTGGCATG AGGTTGGTAA    3240

TAACCGCAAT CTCTGGATGG AATTCTTGAA CACCCATGAG TTGGAAAGAA GAAAGTTCCA    3300

TAACAAGCGT GTCCTTATCT GATGCTATTT GAGCAACCTG ACTAGCTGGA TAGCCGATAT    3360

TCCCTGATAA AAGACCATGT TGGCCAGCAG CAGTCAAAAC TTCCCCAATC ATAGTCGTTG    3420

TGGTTGTCTT ACCGTTCGAT CCTGTGATAC CAATAATCGG TGCTTCTGAA ATCAAATAAG    3480

CCAATTCCAC CTCAGTCAAG ACTGGAATTC CCTTGGCCAA AGCCTTTTCA ATCATGGGAT    3540

TGTTGTAGGG GATACCTGGA TTTTTCACCA TAAGGGCAAA CTCTTCATCC AAGAGTTCCA    3600

AAGGATGGCC ACCTGTAATG ACCTTGATCC CTTCTTCCAG CAAACTTTGG GCAGCTGGAT    3660

TGTCCTCGAA AGGTTTCCCA TCATTTACTG TCACAATGGC ACCTAGCTTG TCCAACAAAC    3720

GAGCTGCAGA TTCACCGAC TTGGCCAAAC CTAAAACAAG GACTTTCTTA TTTTTAAATT     3780

GATCTATTAC TTTCATGTCT CGAACTCCAT TTCTACTCCT ACTATTTTAC CATTTTTATG    3840

GAAATAAAAA AGCCACAAAG TGTGTTTGTG ACTCTTTCTT CTAACTGAAT CTTACCATAT    3900

CATCTATGTG ATAAATCGGT AACTCGAATG ACCTGATCCA CTTGCTCCCA AATCAGAGGA    3960
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1166

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TTATGGGTCG CAATAATAAT GGTCCGATTC GGATTTTTTA AAGATTCTAG GATGGAAAGT      4020

AATTCCTCAG AGTTTTTGGG GTCTAAGGAA GCGGTTGGTT CATCTGCGAG GATCAAAGGT      4080

GGATCCTTTA AAATTATCTT CGCTAGTGCA ACACGTTGTG CTTCTCCTCC TGATAACTCA     ·4140

AATATAGGTT GCTTCAAATC CAAATAAGAG AGGTTTACAC GGTTTAGAGC TTGTTTCATC      4200

AAAGAGATTT TCTCTTTTTC CTTCAACTTT TTACCAACTA AACCCAGATT GAGATTCTCT      4260

TTGACGGTTT GGCTTTCAAT TAAGCCAAAA TCTTGAAATA AGTATCCTAA GTAATCTCTA      4320

AAGAAAACAG AAGGCTTGAT GTCCTTAAGA GAAGTGCCAT CATAGATGAT TTGCCCTTTG      4380

TCATATGGCT CCAATCGTCC AATCATATTC AAGAGTGTTG TCTTACCACA GCCACTTGTA      4440

CCGATTAAGG CATAAATTTT CCCACCTTCA AAATGAAGAT TCATATCTGA AAATAGCTGA      4500

CGGCTTCCAA ATTTTTTAGA TATATTCTTT AGTTCAATCA TCCTATTTTC CTTTCATAAT      4560

TGTCATAGAA ACACGAGATT CTTTCTGCGC TTGACGGTAA AGCGTCAAAA CTGCACTAGC      4620

TAGAAAGACC AATAAAGTGA GCAAGCCAAT CACCAAGTCT CGACTGCTTA AAATAAAGAG      4680

ACTAGCACCA AATACAAAAC TAGCAAATTG GCTAACCATA TACTGAGCAT GTGTTTCAAA     ·4740

AAATCGTAAA CCTGAAATTC GTTTAATCAA GATATCTCGG CGGAATTGCT CGAAATATAG      4800

AAGATTGACA GAATAAAAGA GTAACAAGGA ACTGGCTATT CCAACAATAG CTCCTAAGAT      4860

TAAAGTTGCT GTTTCAGTTT GAACTTCATT ATAACGAGTT AGATAAACAC TTCTTCCTTC      4920

TTTAAGATAG GATACTTGCT CATAAATTCC AGCTTTCTTC AAGAGTTCTA GCCCACTCTC      4980

ATATCCTTTG ATAAAGAGTT GTTTTCCAGC ATTGATAGAC CAACTAGATA AGGATATAAA      5040

ACTATCACCT GTAGAAGTCG GCGTGAATAC CACTAAAATC GGATCAGTCA AATACTGAGT      5100

AGATACGGGA TTCTCACCGT TATTATAAAC AAACCGCTTT TCTCCCATTG AAAGATAACT      5160

AACGTGCGCT TTCATCTCAT AATCCAAAGG AGCACTTGCC TCCTCACCAG ATTTTCCATA      5220

ATAACTCAAT CTTTCTTCAA AAACTTTCTT AAGTTCTGCT TCTCGAGAGC GCAAATGTTC      5280

TGGGAGCAAG AGGATAAACT CACCTTTTTG GAGATGGGCT AACTTCTGTT TGGTCTCAGC      5340

ATCTACCACG ACCTTTTCCT TGTCCAAATA ACTGGGACTA ACATAGAGCG TATTAGCATC      5400

TGAACTATAG GTATCCAGTG TCTCTCCCTG TTCATTTTTT CCTTGTGGAT TGGCAAAATG      5460

GAGCAGATTA TCCTTTACAT AAAGAGCTTG TTCTTCTTCG ATTGCTTCCT TGGCAAAGGC      5520

ATACCACTTG CTCTGATTTT CTGTATCTTT TCCTCTATCA CCTAAGCCAA AGGAAATCTG      5580

GTAATAGTCT GCTCTGTCCT GCCATGCTTG TTTTGAAATT TCAAGTTCTT TCAATCGTTG      5640

GTAAGACGTC AAACCTGTCT TAACAGCGTA GCCTACTGTA AAAACAGCTA CTAACTGACA      5700

CAATAGGGTT AAAGCCATCA AGCGTTTAAG GGGTAATCTT CCCTTAATAA CGGGAACTAA      5760
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1167

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TGCTTTGTAA CTCAAACTCA TTAGGTAAAG GAGCATTAGT AAAATTGAAA TCGCCAATAA      5820

AAACAACAGA TAGAAACTAA TCCCAAAACC ATAGGTGGCT AACAAGATAG GATAAAACAA      5880

ACCTTGACTA AAAAGAACGA CTCCCCCACC TAGGAAGGAA AGGAGGGCTG ATAGAAGGAG      5940

CCATTTGATA TCAGTAGATA AAGAATGCCC CATGATGGAT AAGAGAGTCT GACCAGAAAA      6000

GAGTTTTATA CCTGCTGCTC TCATTTCCTT AATCCGAGTG ATAATCACTA AAGCAAAGAA      6060

AGATAAGCCA AATATTGCTA AACTAATTAA AATAAGGGGA TTTAGTAATA TTCGAAAAGC      6120

AAGAAAATAG GGCGGTATCT TTCGGTCAGC ACTTGCTTTA TAACCCAAAT CTCCTAATTT      6180

ATCGGCAAGC TTTTCTTTCG TCAAGGAGCC TGACAAAAGG AGATAACTAT TTAGCGGANT      6240

AtACGTTCAC GACTTTCTTG GCTAGCTTCT TGGAATTCTT TTGGTAAAGT TCCCTGACCA      6300

TAAGTTGCAT AAGTAAAGTG AGTCGTCCCA TCCTTACTCG GCTCTACAAT TCTTCTAGCT      6360

ATTAAACTCT GTTCTGAGTT TGCAAAATTC TCCAATTCCT GTTCAAATAC CTCACGCGTC      6420

GGTTCCTGAG TATCTTTTTT GACACGAAGT AAAGAAACGG AATCATAGCT TGCATATAAA      6480

TATTGTGGCG CACGTAAGAC AATAATCCAA GCAAGGAAGA AGCTGAGAAA AAAAGTTGAT      6540

AATAATATGA ATAGTTTCTT CATAGTAGAC TCCTTGTAAA CAAAATTCCC CCTGTAATTT      6600

CTTACAAGGG GAACGATTTA AATCAATGAA CGATTAGTCA TAATCACAGT AAAATGCTAC      6660

TTGTTCTCCC CATTTAGTCC AAATCCATGC AGG                                  6693
```

(2) INFORMATION FOR SEQ ID NO: 196:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1847 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 196:

```
CCGGTCTATG TACCCACTAC TTTGGGACAA TATGGGGATC AGCTACCCAA AACTAATCGA      60

GCGTTTGGTT GACCTTGCCA AGGAAAGTTT TGACAAGCGC GACGATTTGA TATAAAATGA     120

AAGAGAGGGT AGAAGCCAGA ACCATCACTG CACGGTGACT AGAGTTCTCG GACTTCAGCC     180

CTTTTTAAAG GAGTAGAAAT GAAATTAACA ATCCATGAAA TTGCCCAAGT TGTTGGAGCC     240

AAAAATGATA TCAGTATCTT TGAGGACACC CAGTTAGAAA AAGCTGAGTT TGATAGTCGT     300

TTGATTGGAA CTGGAGATTT ATTTGTGCCA CTTAAAGGTG CGCGTGATGG CCATGACTTT     360

ATTGAAACAG CCTTTGAAAA TGGTGCAGCA GTAACCTTGT CTGAGAAAGA GGTCTCAAAT     420
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1168

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CATCCTTACA TTCTAGTAGA TGATGTTTTG ACAGCCTTTC AATCCTTAGC ATCCTACTAT      480
CTTGAAAAAA CGACTGTTGA TGTCTTTGCT GTTACAGGTT CAAATGGCAA GACAACGACT      540
AAGGATATGT TGGCGCATTT ACTGTCAACA AGATACAAGA CCTACAAAAC ACAAGGCAAT      600
TACAATAATG AGATTGGCCT TCCTTACACA GTTCTTCATA TGCCTGAAGG AACAGAAAAG      660
TTGGTTTTGG AGATGGGACA GGATCACTTG GGCGATATTC ATCTCTTGTC TGAATTGGCT      720
CGTCCAAAAA CAGCCATCGT GACCTTGGTT GGAGAAGCCC ATTTGGCCTT TTTCAAAGAC      780
CGTTCAGAGA TTGCTAAGGG AAAAATGCAA ATTGCAGACG GAATGGCTTC AGGTTCCTTG      840
CTTTTAGCGC CGGCTGACCC TATCGTAGAG GACTATTTGC CAACTGATAA AAAGGTGGTT      900
CGTTTTGGGC AAGGGGCAGA GCTGGAAATT ACTGACTTGG TTGAGCGCAA AGATAGTCTG      960
ACCTTCAAGG CCAATTTCTT AGAGCAAGCC CTTGATTTGC CAGTAACTGG CAAGTACAAT     1020
GCGACAAATG CTATGATTGC ATCCTATGTT GCCTTGCAAG AAGGAGTTTC AGAGGAGCAA     1080
ATTCGTTTGG CCTTCCAAGA TCTTGAATTG ACGCGTAACC GTACCGAGTG GAAGAAAGCA     1140
GCCAATGGAG CAGATATCCT GTCAGATGTT TACAATGCCA ATCCAACTGC TATGAAACTG     1200
ATTTTAGAGA CTTTCTCTGC CATTCCAGCC AATGAAGGTG GCAAGAAAAT TGCAGTGTTG     1260
GCGGATATGA AGGAGCTTGG TGACCAGTCT GTTCAACTTC ATAATCAGAT GATTTTGAGC     1320
CTTTCTCCAG ATGTGCTTGA TACCGTGATT TTCTATGGAG AAAAATATTGC TGAATTAGCC    1380
CAATTGGCCA GTCAAATGTT CCCAATCGGC CACGTTTACT ACTTCAAGAA AACAGAAGAC     1440
CAGGATCAAT TTGAAGACCT AGTCAAGCAG GTCAAGGAAA GCCTTGGAGC CCATGACCAA     1500
ATCCTGCTCA AAGGCTCTAA CTCTATGAAT CTAGCCAAGT TGGTAGAAAG TTTAGAAAAT     1560
GAAGACAAGT GATTTTGTCA AGTATTTGCA AAGAATGATT GCCATTACAG ATACTGGCTT     1620
AACCTTTACA AAAGATCCGT TTGACCGTGA GCGCTACGAA GACTTGCGAA GTCTGTTATC     1680
TGAAATGTTG AATCAAGCAT CAGACCTTGA TTCCGAAGAA GTGGCAGAAG TCTTGAAGCC     1740
AACTTCTGCT TATGCGACTC CGTTAATGGA CGTCCGTGCT TGGATTGTTG AGGATGAGAA     1800
GATTTGTCTG GTTAGGGGAC AAGGAGAGGA TAGTTGGGCT TTGCCGG               1847
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(2) INFORMATION FOR SEQ ID NO: 197:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1062 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 197:

1169

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CAAGCGAAAA CATTTTTTAT TCCAAATAAA CAGAGCATTT TAGGAGAACA AGAGATTTTG        60

AATGCCAAGT CGATCTTGGC CTTGCTAGAC GGTTTGGAGT CACATAGCTA TGATGTAGTC       120

TATCTCCGTC AGCCTCTTAA TCGTCTCGAA TATATCGAGT GTGCGATAGT GGGGCAATCA       180

CAATTTCTCT TTAAGGTCAG TTATGCTGAT GGTCAAAAGG CTTACCGTGT CGATCTTCCT       240

GACCTACTAA CAAAGACAGA CTGGCAGATT ATCAAGTCAT TTTTAGATGC TTTGCTTGCT       300

TATACAGGGA CTGATATTGA AGGGCTAGAT GGTTTTGATT TTGAAGCTTA TTTCCAAGCA       360

AGTATTCAAG CCTATCTAGC AGACCCTGTA GCTCGTTTTA CGATTTGCCA AGGAATTTTT       420

AATCCTATTT TCTTTAGTCG TGAGAACTTG AAAAGCTTTT TAGAGGCAGA TGGCTTGGCT       480

CAGTTTGAAG CGCGTGTGCG TGCGGTTCAA GAGACAGATG CCTACTTTGC GAGAGTTTCC       540

TTCTATCAGG ATGGAGAAGG AAAAGTGCAT GGCGTTTACC ATCTAGCTCA AGGAGTCAAG       600

ACAGTTTTAC CGAGAGAACC GTTTGTTCCT GCAGCCTATA TTGAGCAATT GGTGGATAAG      660

GAAGTCCAGT GGGAGATTGA CTTGGTTCAA ATCACAGGAG ATGGCTCTAA ACCAGAAGAC      720

TATGAAGCCA TTGCTCGCTT GGACTATGCA AAATTCTTAG AGGTATTACC CCCATCTTTT     780

TACCACCAAC TAGACGCCAA TCAAATAGAA GTGCAACCCA TATTAGACAA AGATTTTAAA      840

ACATTAGCAC AAGAAAAGTA AAGCAGAAGC AGGTCAATCG ACTTGCTTTT TTGACATAGA     900

AAAAATCCTG CCAAGaTGAC AGGATTGCTA CTCAATGAAA ATCAAAGAGC AAACTAGGAA      960

GCTAGCCGCA GCTGTACTTG AGTACGGTAA GGCGAAGCTG ACGTGGTTTG AATTTGATTT     1020

TTGAAGAGTA TGAAGTTTAA AGAAAAGCCA AGATACGAAG AT                        1062
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(2) INFORMATION FOR SEQ ID NO: 198:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6846 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 198:

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TATCTACAAC CTCAAAAACA TGTTTTGawG gCTCGTCAGT cTATCTACAA CCTCAAAAAC        60

ATGTTTTgAa kGCtcGTCAG tTCTATCTAC AACCTCAAAA ACATGTTTTG AcaGCcTcGT       120

CAGTTCTATC TACAACCTCA AAAACATGTT TTGAGCTGAC TTCGTTAGTT TCATCTACAA       180

CCTCAAAAAC ATGTTTTGAG CTGACTTCGT TAGTTTCATC TACAACCTCA AAAACATGTT       240

TTGangnCnT CGTCAGTTCT ATCTGCAACC TCAAAGCAGT GCTTTgagcG CTTCGTCAGT       300
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1170

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TCTATCTACA ACCTCAAAAC AGTGTGTTGC GCAGCCTTTA ATCAGCCGCC TAGTCCGCTC      360

TATGGTATTC ATTAAGTCAA CATCTCTTGT TTAAGAGCAC CAAATCAGGA AATCTTCTCG      420

ATTCCCTGAT TTTTTCTATT TACGTTTTCG TGTTGAGCTA CGTTCTGTCA AACCATGAGG      480

TAAGAGAACT TCACGTTCTT CCAACTCTTC CTTATGCATA ATCTTGGTCA ACATACGCAT      540

ACTAATGGCA CCAAGGTCAT AAAGAGGTTG GGCAATCGTT GTCAAGTTTG GACGGGTAAA      600

GCGTGAGATT TGTGAATCAT CACTAGTAAT AATTTCAAAA TCTTCTGGCA CAGAAACACC      660

CTTATCAGCC AAACCGTTCA AGACTCCTGC TGCCAACTCA TCACCTGTCA CAACTGCTGC      720

AGTTGCATTT GATGAAATCA AACGCTCTGC TAAGGCGTAA CCATCATCAT AGCTATATTT      780

AGATTCAAAT ACCAAACCCT CACTATAAGT GATTCCTGCT TTTTTCAAGG TTTCCTTGTA      840

GCCAACTAAA CGAACCTTAC CATTGATGTC ATCCACTAGC GGACCGCTAA CGAAAGCAAT      900

ACGCTCATTT TCTTTAGCAA GGTAACTCAC TGCATCAATT GTTGCTTGCT TATAGTCAAT      960

ATTGACACTT GGCAACTGGT GCTCAACATC GACAGTTCCT GCGAGAACAA TCGGAGTACG     1020

TGAACGCGAA AATTCTGAGC GAATTTTATC TGTCAAGTGA TACCCCATAT AGATAATGCC     1080

ATCTACCTGC TTTGAAAAGA GGGTATTGAC AACAGAAACT TCTTTCTCGT TATCTTCATC     1140

GCTATTAGCT AGGACAATAT TGTACTTGTA CATTTCTGCA ATATCATCAA TCCCCTTAGC     1200

CAAACTCGAA AAATAACCAT TGGTAATATT TGGAATCACG ACACCGACAG TGGTTGTCTT     1260

TTTACTTGCA AGACCACGCG CAACTGCATT TGGACGATAA TCCAAACGAT CAATTACCTC     1320

TAGCACTTTT TTACGGGTAT CTCTTTTAC ATTTTTATTG CCATTGACCA CACGGCTGAC     1380

CGTCGCCATG GAAACACCTG CTTCACGAGC GACATCATAA ATGGTTACTG TATCATCTGC     1440

ATTCATTCCT TTTCCTGTCC TTTCTATCTC ACACATTCTT TTACAAGTAG AGGTACTGAT     1500

TGAAGCTCTA TATCTACTTA CAAAAGTGAA GATGTGAAAA TTTCGTTTTC ATATTTCTAC     1560

TTATTCCATT CTATCACTAA TTGTAAACAC TTTCAAGTGT TTTTTGAAGA TTGATTGAAA     1620

AAATTTCATA GAAAACCTAG GTTTAGCTCC TTGCTACCAC CTTAGACTAA ACAAAAAGGA     1680

GGAAACTAAG CCCTCCTAAA GTTATAGTAA AATGAAATAA GAACAGGATA AATCGATCAG     1740

GACAGTCAAA TCGATTTCTA ACAATGTTTT AGAAGTAGAG GTGTACTATT CTAGTTTCAA     1800

TCTACTATAG GTATTGTTCC ATTCACTACC GTCAATTTTA GCACATAGTC TTCATGAAAA     1860

TATTATATCA TCATAACCAA CCAGATTCTT TCGCGATATT AGCTGCCTCT GTTCGATTAC     1920

CTGCATCTAG TTTCGAAAGA ATATTGGTGA CATAGTTTCG GACTGTTCCG TTGGATAGAT     1980

AAAGTTTGTC TGCAATTTCT TGGTTAGAGA AGCCCTGAGC AATTCCCTTT AAAACTGCGA     2040

TTTCTTGCTC CGTTAATGGA TTGGGATGCA TCATCACCAC TTCCATCAAT TCAGGCGAAT     2100
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1171

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ACTCCTTGCG TCCTTCGAGG ACGGTGTGCA AGGTTTGCAT GAGGTCTGCA ATGTTTCTTT    2160

CTTTTAATAC ATAAGCATCT ACTCCAGCCT TGACCGCACG TTCAAAATAC CCAGGACGCT    2220

TGAAGGTCGT CACCACAACC ACCTTTGTTT CAAGCTTTTC TGCTCGTATC CACTCCAAGA    2280

CTTCAAGACC TGTCTTAACA GGCATTTCTA CGTCAAGGAT GGCGATATCT ACAGACTCCT    2340

TTTCTAATAG TTGGATTGCT TCTTGCCCAT TCTTGGCTTG AAAGACAGAC TCTACATCCG    2400

GTTGAAGCAT GAGCAACTGG CACATGGCAT CTCGCAACAT ACTTTGATCT TCTGCGACTA    2460

ATACTTTCAT CTACTTTCTC TCCTTATAAA GTAGTCGAAC CTGCACTTCA GTTGGATGTT    2520

TCTGACTGAT TACACTTACT TCTCCTGAAA ATGGAAAAAC ACGATTTCGG ACTGTATGGA    2580

GCTCATCCCC GCTTATAGAG GCAAAGCCAC AGCCATCATC TCTCACTGTT AGAATGAGTT    2640

CTTTCTCTGT CCGTTCTAAT TTCAAGTAGA CTTTAGACGC TTTAGCATGT TTGATGATAT    2700

TGGTCACTAA TTCAAGCAAA ATCATGGAAG CCGTTGACTC CAATTCCTGA GTTAAGCTAG    2760

ACTTGTCCAA GTGATTCTCA ACTTGAACCT CAATTCCAGC AATTTCTAAC ATCTTTTTCA    2820

CAGTCTCTAG TTCGGATGTC AAAGTTCTAG ACTTAAGATT TTCCACAATG GTTCGCACTT    2880

CATTCATGGA tCCTTGCTGA TCTGGTGAAT TTCTTTTAAT TCCTTTTCCA CCTGTGGATA    2940

AGCCTCCATC TGAAATAACT GCAAGGCTAA ATCTGTCTTG ACACTCAGCA TAGCAAAGGT    3000

ATGTCCCAGA CTATCATGCA AATCCTGACC GATACGACTA CGTTCATTTT CAGCAAGCAA    3060

TAGATTTATC TGAGCATTTT GCTTGACCTG AGCTTCTTTC AAATCCTCGA CAATACGAAT    3120

CCGAACCAAT CCAAAAGTCA TTAAATCGAC AAAAGTAAGA ATTACAAGTA GATAGAATAG    3180

AAACTCAACT TCGATTCTCT GAAAAATCAA CAGTTGCCCC ACAACAAGGA CTTGAGCAAG    3240

AAGAAAAGTC CAGACATGTA AAGACTTTAA ACTACGTACG CTGAAATGAT AACTTAAGAG    3300

ATTGGATAGG AAAAAGAAAA ACCAGATATA ATTAACAGCA ACAAAGGCAG TATTCCCAAC    3360

TACATAAGTC AGCATGAGGC CCCAATATAG CCAAGATAGG CGCTGGCTCT TAGTTGTTAA    3420

AACACCCAAA TATGCCACTA CAAATAGAAT ATCAATCAAT AAATGCCAGG CAGAAAGCCA    3480

CCCAGTCACT ACAGACAGGA TGGGGAAAAT CATAAAAATT AAACTGATCC AAAACATATA    3540

ATGTATTCTT TTCAGTCTTT CAAGCATTAA GCATTCTCCT TATGACCTTG AAGGTAAATG    3600

GTCAAACCAA ACAAAACTAC TGAAAAAACA AGTAAATAAA CTGTGGCTGA TAGATTGATG    3660

CCACCCTCAT TTAAGAAGGT CTTGAGCAAC TCCATCAACT GATAGGTCGG GAGACACTTA    3720

CCTACTACTT GCATCCAGTC TGGAAATAAA GAGATAGGCA TCCAGAGTCC ACCTAAAACA    3780

GCCAACCCTA GATAAAGAAG ATTGCCCACG ACAGACATCA ACTGACTAGT TGGTAAGAGA    3840
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1172

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GTCAAGGTCA AACCAAGCGC TACGAAGGCA ATACTTCCTA CTATCAGCAA AAGTGCAGCC    3900

CCAATCCAAT TTCCAAGAGA CATGTCCACA CCTCTTACAA AATGCCCAAC TGAGAAAACC    3960

ACCAAGATTG AAACCAAATA ATCAACCAGC ATACTTGTTA TCTTTGATAG ATAATATTCT    4020

ACCATATTTA CAGGGCTATG ACGCAATGTT TTCTGCCAGT TGTTGATCTT GTCGGTATGT    4080

AAAACAACTG GGAATGAGAA GATAGCTGTT GACATCATGG AAAATGCAGT CATGGAGATA    4140

AGATAATCAC GCATAAAATT CGCGAGTTCA CCTGGTGTGT CCTGATAGAT ACCAGAAAAA    4200

AATAAATAGA AAGCCGTCGG CATCCCTACT GACAATAGAT AATAGATCAA TTGTCGTTTG    4260

GTCAATAAAA ATTCTATCTT ACTAAGTGCT AGCCATCGTT TCATCTTAGT TATCTCCCTT    4320

CTGCGTTTCT TCAAAGATTG TATCCAACAA ACTACGATTA TTAACTTCAA TTTCTTGTAT    4380

GCCACATCCT GCTTGAACTA ACAGTTCCCA AAAAGCATCT GCTTCGCGTG TGACTACTTG    4440

TAGAGCATCC TGTTTTTGTG ACCAGTTTTC AACCAAGTTA GACTGCTCAA TGACTTCCTT    4500

GTATGCCAGA GGAAGGATAA AATGCTTTTC AATTCCCTCA CTACGCATAG CTAGAGGCGT    4560

CGTATCACGA ATCAACTCTC CCTTATTTAA AACCAAAATC CGGTCAGCCG TATGCTCTAC    4620

CTCTTCAATA TAATGAGACG AATAGAGAAT CGTGACTCCT TGCGCTTTTA GGTCCCGAAC    4680

GATTTCCCAA AAGCGTTGAC GAGTTGAAGT ATCCATGGCA GCAGTTGGTT CATCTAAAAA    4740

GACAAGCTTT GGTCGCCCAA TCAAGGTCAA GACAAAGAG AAGAGACGCT TTTGCCCGCC     4800

TGACAATTTT TCTGCGAATT GCTCTTTTTG TTGCTGGTCA AACTGCAATA GTTGATCGAT    4860

TTCCTGATCG CTCAAGGAAT TTGGATAGAT ACGTTGAAAG AAAGCAATCA ACTCTTTGAC    4920

CTTTAATTTC TGAACGATGA CATTTTCTTG AGGCAGATAA CCTCTAATAT AGTCTAACTG    4980

AGAACTCGTC ACTGACAAGC CTTGGATGGA TACTTGACCG CTTGTGACCA GTTTATCTCC    5040

AAGCAGACAG TCCAAGAGTG TGGTCTTCCC AGCACCATTG GGCCCAATCA AGGCGACGCA    5100

TTCACCTTCA GCTACCTCAA AGGAAATACC CTTCAAAATA GCCTTGCCCT TGATGTTTTT    5160

ATTTAGGCTT TCTACCTTAA TCATATTCAT GATATTCTCC TTTCAACCAC TCCATTCTCA    5220

TAAGGAAAAC GACGAAAATC ATAAATCCAA ACCCCAAAGC ACCACGAATG AATTGGCGAA    5280

gCAAGGTTTG GTCAAACCAA CCTGTAAACA TTTCCACTAA CCATACCAAG AGTGACAGGC    5340

CGATAAAGAA ATAGATGATC CCTCTCTTCA TTCCTCAAGC TCCTTTTTCA CATCTCCGAC    5400

TAATTTCAAA CCTTCTCTAA CAAGCCAAGA CATCATTCCA AAGCCAGCAA AGAGCTCCCA    5460

AGGAAAATGA TAGAAACTCT CATCCAATCC CGAAAACATG AGTTAGGTCA TAACTCCTGC    5520

TACTACTAAA CTCACTGCGA TAATCATTTT ATTTCTCATC TCTTCTTCCT CCATTTCATA    5580

CTACAATTAT AGTCTTTTGA AATCAGAGGA GACAGAAGCT TCTGTCACTA GAAAATATGA    5640
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1173

CAAATGTCAT AAAAAATTCT GTTCAAAACA AGCAAGATAC ACTATACAAT AAAACACAAT   5700

TAGAAAAATC TAAGGCAACT TCCTCAAAAG AGATATCAAA CCCAATTCAC ACCATAATGT   5760

AAACTAATAC TTATTTAAAA TCAAAAAGAG TAGAAATTTT TATCAGACAA ACACATATAT   5820

AGTGTATTGA ATCTATAACA GTAGGCCTTA AATACTAAAA TATTTCTATA AATTAATTTA   5880

ACTTTCCTGA TAGAGCTGTT CATATCTTAT TTCAATTCTC TAAATTATAC GTTGAACAAA   5940

ACCCTTCTAT TTCTTTCTTA AAGATTTATA AGAGTTATAA AATCTGTTAA ATTTCAATGT   6000

GTATACCTAA ACTACGGTAT TTATTGAAAA GACTGGAGAC AAAAAGTATA CGCTGCCAAA   6060

ATGAATTACT GAAAATCAAA AAAGAGAGAA CCAAACTGAT TCCCTCTTAA TGTATATAAT   6120

ATCTAGTTTT AAAAATACAC ACTCACATAT CTCTGTAATG AATCGGGAAG ACAGGATTCG   6180

AACCTGCGAC ACCTTGGTCC CAAACCAAGC ACTCTACCAA GCTGAGCTAC TTCCCGAGTT   6240

AAATAGAAAA ATGCACCCTA GAGGAGTCGA ACCTCTAACC GCCTGATTCG TAGTCAGGTA   6300

CTCTATCCAG TTGAGCTAAG GGTGCTCCAT ATTATGCCGA GGACCGGAAT CGAACCGGTA   6360

CGATCGTTAC CAATCGCAGG ATTTTAAGTC CTGTGCGTCT GCCAGTTCCG CCACCCCGGC   6420

CTCTCTAAGC GAACGACGGG ATTCGAACCC GCGACCCCCA CCTTGGCAAG GTGGTGTTCT   6480

ACCACTGAAC TACGTTCGCA CTGTTTTCTT CTATCTAAAA ATGCCGGCTA CATGACTTGA   6540

ACACGCGACC CTCTGATTAC AAATCAGATG CTCTACCAAC TGAGCTAAGC CGGCTCATTT   6600

GTTATATCTT AATGCGGGTT AAGGGACTTG AACCCCCACG CCGTTAAGCG CCAGATCCTA   6660

AATCTGGTGC GTCTGCCAAT TCCGCCAAAC CCGCATATAT GACCCGTACT GGGCTCGAAC   6720

CAGTGACCCA TTGATTAAAA GTCAATTGCT CTACCAACTG AGCTAACGAG TCTAAAATAA   6780

cTTGCGTTAC CTTAAACGGT CCCGACGGGA ATCGAACCCG CGATCTcGCC GTGACAAGGC   6840

GACGTG   6846

(2) INFORMATION FOR SEQ ID NO: 199:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2911 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 199:

GAATTCATTT TAAATAAAGA TACGGGAGAG GTAAGTGAAT TAAAACCTCA TAGGGTAACT   60

GTGACCATTC AAAATGGAAA AGAAATGAGT TCAACGATAG TGTCGGAAGA AGATTTTATT   120

1174

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TTACCTGTTT ATAAGGGTGA ATTAGAAAAA GGATACCAAT TTGATGGTTG GGAAATTTCT      180

GGTTTCGAAG GTAAAAAAGA CGCTGGCTAT GTTATTAATC TATCAAAAGA TACCTTTATA      240

AAACCTGTAT TCAAGAAAAT AGAGGAGAAA AAGGAGGAAG AAAATAAACC TACTTTTGAT      300

GTATCGAAAA AGAAAGATAA CCCACAAGTA AACCATAGTC AATTAAATGA AAGTCACAGA      360

AAAGAGGATT TACAAAGAGA AGAGCATTCA CAAAAATCTG ATTCAACTAA GGATGTTACA      420

GCTACAGTTC TTGATAAAAA CAATATCAGT AGTAAATCAA CTACTAACAA TCCTAATAAG      480

TTGCCAAAAA CTGGAACAGC AAGCGGAGCC CAGACACTAT TAGCTGCCGG AATAATGTTT      540

ATAGTAGGAA TTTTTCTTGG ATTGAAGAAA AAAAATCAAG ATTAAGATAA AAGCTATAGA      600

AAAAAATGGT TTATGTACTG AGATTAGATA GTGAGGTGAT GACATAGTTT TGTGAAAATA      660

GCCATTTATA ACTCAATTAT TTAGTTTACT TTACTTTACT AGTGATACTA TTTGGAGTTA      720

TTAATGGACT TAGTTTATAT AACTAATGAA TTGATTGAAA GGGTTAGTAT TGACAATATT      780

GGTCATATTG ACTAGAAAAT AGAGTCTATC AAAATTTAAA GGCTAATAGA GGTGATGAGA      840

CAATTTCGGC TCTTTGTCAA CTGTAGTGGG TTGAAGTCAG CTAAGCTCGA GAAAGGACAA      900

ATTTTGTCCT TTCTTTTTTG ATATTCAGAG CGATAAAAAT CCGTTTTTTG AAGTTTTCAA      960

AGTTTCGAAA ACCAAAGGCA TTGCGCTTGA TAAGTTTGAT GAGATTATTG GTCGCTTCCA     1020

GTTTGGCATT AGAATAGTGT AGTTGAAGGG CATTGACAAT CTTCTCTTTA TCTTTGAGGA     1080

AGGTTTTAGA GGATGAACTT GATTCAGATT GTCCTCAATG AGTCCGAAAA ATTTGTCAGG     1140

CTCCTTATTC TGAAAGTGAA AAAGCAAGAG TTGATAGAGA TTATAGTGGT GTTTCAAGTC     1200

TTCTGAATAG CTCAAAAGTT TATCTATAGT AGATTGAAAC TAGAATAGTA CACCTCTGCT     1260

TCTAAAACAT TGTTAGAAAT CGATTTGACT GTCCTGAATG ATTTGTCCTG TTATTATTTC     1320

ATTTTACTAT AAATCCACGT TTACGAATCT CTTTCCACAC TTGTTCAATG GGGTTCATCT     1380

CTGGTGTGTA TGGAGGAATA AATGCAAAAC CAATATTAGT CGGAATCTTT AAGGTACTTG     1440

ATTTATGCCA TATAGCATTG TCCATAACGA GTAAAAGATA ATCATCTGGA TAAGCTTGTG     1500

AAAGCTCCTA TTCCTAAAGC CCCTTTATAA CCTCTTGCGA GAGAGACTAT TGACTCAGCC     1560

CTTACTTCAT GCGGATGAAA CTTCTTATCG GGTTCTAGAG AGTCATAGCC ATCTGACCTA     1620

CTATTGGACC TTTTTGTCTG GGAAAGTTGA GAATCAAGCA ATCACGCTGT ACCATCATGA     1680

TCAGAGTCGG AGTGGTTCGG TAGTACAAGA ATTCCTAGGA GATTATTCTG GCTATGTTCA     1740

TTGTGATATG TTGCGGCAGT AACTTAGGAC TTTAGTCCTC TAGTTCTGCC TATGCGATAG     1800

CAGTCCAAGG TTTAGGAGCA AGGCGACGCT AAGCTTGGTA AACTGCGAAC CGCTAGAAGC     1860

TTATCGTCAA CTGGAAGAAG CTGAACTTGT TGGATGTTGG GCGCATGTGA GAAGGAAATT     1920
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1175

TTTTGAAGCG ACCCCCAAGC AAGCAGATAA ATCATCCTTA GGAGCTAAAG GTTTAGCTTA   1980

TTGTGATCAG TTATTTTCCT TGGAAAkAGA CTGGGAGGCT TTGCCAGCTG ATGAACGACT   2040

ACAGAAACGT CAAGAACATC TCCAGCCCCT AATGGAAGAC TTCTTTGCTT GGTGCCGCCG   2100

TCAGTCAGTT TTAGCAGGTT CAAAACTAGG AAGGGCAATT GAATACAGCC TCAAGTATGA   2160

AGAAACCTTT AAGACTATTT TGAAAGACGG ACATCTGGTC CTTTCCAATA ATCTAGCTGA   2220

ACGCGCCATT AAATCATTGG TTATGGGACG GAGTAAAAGA GTCCAGTGGA CTCTTTTAGC   2280

CTGAGCTCAG TTTAAAAAAG CGAGGGTGGT TATTTTCTCA AAGTTTTGAA GGAGCTAAAG   2340

CAAGAGCTAT TGTTATGAGC TTGTTGGAAA CAGCTAAACG TCATCAATTA TAGTGCGTTG   2400

AATCTATAAC AGTACGCATC GACTGCTAAA ACATTTCTAT AAATCAATTT TCCTTTCCTA   2460

ATCGATTTGT TCATATCTTA TTTCAATCCA TTATAAATAG CGAGAAATAT CTATCCTATC   2520

TTCTAGAATG TCTTCCAAAC GAGGAAACTC TCGTAAACAA AGAGGTTTTA GAGGTTTATT   2580

TACCATGGAC TAAAGTTGTA CAAGAAAAGT GCAAATAAGA AATCTCCAGA TTAGGAACTA   2640

TCCGTGAGTT CACTAATCTG GAGATTTTTC AATAGAtTCG TTATTGGGCG GTTACGATAT   2700

GATcACTACT TCGTCAGTCT TATCTACAAC CTCAAAACAG TGTTTTGAGC AACCTGCGAC   2760

TAGCTTCCTA GTTTACTCTT TGATTTTCAT TGAATATTAG AACAGAAAAA ATGCTTGGAG   2820

TATTTGTTTG TGTGTTTATT TTTATATAAC AAACTATAAA CAAAATAAAA ATATAAAAAA   2880

AGAGACAAAA AAGAACAGAA AGTAATTGAC A   2911

(2) INFORMATION FOR SEQ ID NO: 200:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 6854 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 200:

GAAAATAAGT CTTGACAGAA AGCGCTATCA ATGATAGAAT GAATTCAGAT AAAAAGATTT   60

ATTTTTAAAA CAAAAATGAA ACGTTTCAAA AAAAGAAATA AAGAGACAGC GCCAAGCGCT   120

ATCTTTTCTA GAAAAAAATG AAACGTTTCA AAAAAGGAGG TTGCTATGAA TAGCAAAGCG   180

AAGCAAGTTT CTCTTTGGGA AAGAATCAAG AAACAAAAAC TCTTGTTATT GATGACTGTC   240

CCCGGTTTAG TTTTAACCTT TATCTTTAAA TACATCCCTA TGTATGGGGT TTTAATCGCA   300

TTTAAAGATT ACAATCCTTT AAAAGGAATT TTAGGGAGTG ATTGGATTGG TTTTTCTGAG   360

1176

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TTTACAAAAT TCATATCCTC TCCCAACTTT GGTATCTTGT TAGCCAACAC ATTAAAATTA      420

AGTATCTATG GTTTATTGCT TGGCTTTTTA CCACCAATCA TTCTCGCGAT TATGCTCAAT      480

CAACTCTTGA GTGAAAAAGT CAAAAAACGA ATTCAGCTCA TTTTATACGC ACCAAACTTT      540

ATCTCAGTCG TTGTTATTGT CGGTATGATT TTCCTCTTCT TTTCAGTGGG AGGACCAATC      600

AACAATTTTC TTTCTATGTT TGGAATGAAG GCTGACTTCT TGACAAATCC AGACTTCTTT      660

AGACCTTTAT ACATCTTTAG TGGTATCTGG CAAGGAATGG GCTGGGCTTC AACGCTCTAC      720

ACGGCAACAT TGGTAAATGT AGATCCAGCC TTAGTAGAAG CAGCCCGACT GGATGGAGCC      780

AAATATCTTCC AACGAATCTG GCACATTGAT ATTCCAGCTC TTAAGCCTAT TATGGTTATC      840

CAATTTGTTT TAGCTGCAGG TGGAATTATG AATGTCGGAT ATGAAAAAGC ATTCTTGATG      900

CAGACATCGT TAAATTTGCC AACTTCTGAA ATTATCTCGA CATATGTCTA TAAAGTTGGT      960

CTTGTATCAG GAGACTATTC TTACTCAACA GCGGTTGGTT TGTTTAATGC AGTGATTAAC     1020

GTAGTATTGC TTGTTGCAGT TAACCAAATC GTTAAACGCA TGAATAATGG TGAAGGAATT     1080

TAAGGAGGAA AGTATGAAAA ATTCGATTAT GGATACAAAA TTTGATAGAC GTATCTTACT     1140

CTTAAATAAA ATCATTATTG TCTTTATCGT TTTGATGACT TTGCTTCCTT TACTTTATAT     1200

CGTCGTAGCA TCCTTTATGG ATCCTAAGGT TCTGGTTAGT AGAGGGATTA GCTTTAATCC     1260

AGCCGATTGG ACTGTAGAAG GTTACCAGCG TGTATTCAGT GACCAATCTA TTCTAAGAGG     1320

TTTTATCAAT TCTCTACTAT ACTCTTTTGG ATTTGCAGCT TTAACAGTCT TGCTATCTGT     1380

GTTTACAGCT TATCCTCTTT CTAAGAAAGA CTTGGTTGGA CGTCGTTGGA TTAACTACTT     1440

CTTGATTGTA ACTATGTTCT TTGGTGGTGG TTTAGTCCCA ACTTACTTGC TCGTAAAAGA     1500

ATTGGGAATG CTCAATACTC CATGGGCTAT CATTGTTCCA GGTGCTGTTA ACGTTTGGAA     1560

TATTATTCTT GCTAGGGCCT ATTTCCAAGG ATTGCCTGAA GAATTAGTTG AAGCTGCTGT     1620

CATTGATGGT GCAAATGATT TACAGATTTT CTTCAAAATC ATGCTTCCTC TTGCAAAACC     1680

AATTATGTTT GTTCTCTTCC TTTATGCTTT TGTAGGACAG TGGAACTCAT ACTTTGATGC     1740

AATGATTTAT ATCAAGGATC CAAACTTGGA ACCATTGCAA CTTGTACTTC GTAAAATTCT     1800

CATTCAGAGC CAACCAGGTC AAGACATGAT TGGAGCACAA GCGGCTATGA ATGAAATGAA     1860

ACGTTTAGCT GAATTGATTA AATACGCAAC TATTGTCATT TCCAGCTTGC CATTGATTGT     1920

TATGTATCCA TTCTTCCAAA AATACTTTGA TAAAGGAATT ATGGCTGGTT CACTTAAAGG     1980

ATAAAAAAAG AAAAAATAAA AGGAGTTTTC TCATGAAATT CAAAACATTC TCAAAATCAG     2040

CAGTTTTGTT GACAGCTAGT TTAGCAGTAC TTGCAGCCTG TGGCTCAAAA AATACAGCTT     2100

CAAGTCCAGA TTATAAGTTG GAAGGTGTAA CATTCCCGCT TCAAGAAAAG AAAACATTGA     2160
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1177

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AGTTTATGAC AGCCAGTTCA CCGTTATCTC CTAAAGACCC AAATGAAAAG TTAATTTTGC   2220

AACGTTTGGA GAAGGAAACT GGCGTTCATA TTGACTGGAC CAACTACCAA TCCGACTTTG   2280

CAGAAAAACG TAACTTGGAT ATTTCTAGTG GTGATTTACC AGATGCTATC CACAACGACG   2340

GAGCTTCAGA TGTGGACTTG ATGAACTGGG CTAAAAAAGG TGTTATTATT CCAGTTGAAG   2400

ATTTGATTGA TAAATACATG CCAAATCTTA AGAAAATTTT GGATGAGAAA CCAGAGTACA   2460

AGGCCTTGAT GACAGCACCT GATGGGCACA TTTACTCATT TCCATGGATT GAAGAGCTTG   2520

GAGATGGTAA AGAGTCTATT CACAGTGTCA ACGATATGGC TTGGATTAAC AAAGATTGGC   2580

TTAAGAAACT TGGTCTTGAA ATGCCAAAAA CTACTGATGA TTTGATTAAA GTCCTAGAAG   2640

CTTTCAAAAA CGGGGATCCA AATGGAAATG GAGAGGCTGA TGAAATTCCA TTTTCATTTA   2700

TTAGTGGTAA CGGAAACGAA GATTTTAAAT TCCTATTTGC TGCATTTGGT ATAGGGGATA   2760

ACGATGATCA TTTAGTAGTA GGAAATGATG GCAAAGTTGA CTTCACAGCA GATAACGATA   2820

ACTATAAAGA AGGTGTCAAA TTTATCCGTC AATTGCAAGA AAAAGGCCTG ATTGATAAAG   2880

AAGCTTTCGA ACATGATTGG AATAGTTACA TTGCTAAAGG TCATGATCAG AAATTTGGTG   2940

TTTACTTTAC ATGGGATAAG AATAATGTTA CTGGAAGTAA CGAAAGTTAT GATGTTTTAC   3000

CAGTACTTGC TGGACCAAGT GGTCAAAAAC ACGTAGCTCG TACAAACGGT ATGGGATTTG   3060

CACGTGACAA GATGGTTATT ACCAGTGTAA ACAAAAACCT AGAATTGACA GCTAAATGGA   3120

TTGATGCACA ATACGCTCCA CTCCAATCTG TGCAAAATAA CTGGGGAACT TACGGAGATG   3180

ACAAACAACA AAACATCTTT GAATTGGATC AAGCGTCAAA TAGTCTAAAA CACTTACCAC   3240

TAAACGGAAC TGCACCAGCA GAACTTCGTC AAAAGACTGA AGTAGGAGGA CCACTAGCTA   3300

TCCTAGATTC ATACTATGGT AAAGTAACAA CCATGCCTGA TGATGCCAAA TGGCGTTTGG   3360

ATCTTATCAA AGAATATTAT GTTCCTTACA TGAGCAATGT CAATAACTAT CCAAGAGTCT   3420

TTATGACACA GGAAGATTTG GACAAGATTG CCCATATCGA AGCAGATATG AATGACTATA   3480

TCTACCGTAA ACGTGCTGAA TGGATTGTAA ATGGCAATAT TGATACTGAG TGGGATGATT   3540

ACAAGAAAGA ACTTGAAAAA TACGGACTTT CTGATTACCT CGCTATTAAA CAAAAATACT   3600

ACGACCAATA CCAAGCAAAC AAAAACTAGA GGTTGATTAT GGGAGATAAG AAATACACAG   3660

TAGAAAAAGC CAATCGTTTT ATAGCAGAAA ATAAACATCT CGTTAATACT CAATATAAGC   3720

CTGAAGAACA TTTTTCAGCT GAGATTGGTT GGATCAATGA TCCAAATGGA TTTGTCTATT   3780

TTCGTGGAGA ATACCATCTC TTTTATCAAT CTATCCATA TGATAGTGTT TGGGGGCCTA    3840

TGCACTGGGG ACATGCTAAA AGTAAGGACT TGGTGACTTG GGAGCACTTG CCAGTGGCAC   3900
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                                      1178
TTGCTCCTGA CCAAGATTAT GACCGAAATG GTTGTTTCTC AGGCTCTGCC ATTGTCAAGG     3960

ATGATCGCCT CTGGCTCATG TACACTGGAC ATATCGAAGA AGAAACCGGT GTCCGCCAAG     4020

TGCAAAATAT GGTATTTTCA GATGACGGGA TTCACTTTGA AAAGATTTCC CAAAATCCAG     4080

TTGCAACTGG ATCAGACTTA CCAGATGAGT TGATTGCTGC TGATTTCCGT GATCCAAAAC     4140

TCTTTGAAAA AGATGGACGC TATTACTCCG TAGTAGCTGC CAAACACAAG GATAATGTGG     4200

GCTGTATCGT TCTACTAGGG TCCGATAACC TAGTAGAATG GCAGTTCGAA TCCATCTTTT     4260

TAAAAGGGGG AGAACACCAA GGTTTTATGT GGGAATGCCC AGATTACTTC GAGTTAGATG     4320

GGAAAGATTG CCTTATTATG TCACCCATGC GTTATCAGCG TGAGGGAGAC TCATATCATA     4380

ACATCAACTC ATCGCTTTTG TTCACGGGTA AGGTAGATTG GAGAGAAAAA CGTTTTATCC     4440

CAGAATCAGT TCAAGAAATT GATCATGGCC AAGACTTCTA TGCGCCTCAA ACATTGTTGG     4500

ACGATCAAAA TCGTCGTATC CTGATTGCTT GGATGCAGAC ATGGGGGCGT ACCCTTCCAA     4560

CCCATGACCA AGAACACAAG TGGGCATGTG CCATGACTCT ACCTAGAATT CTAAGATTGG     4620

AAGATGGCAA ACTAAGACAA TTCCCTGTTA AAAAAGGCCA ATATCAAATC CAAATAGATA     4680

AAGATTGTCA TTACCACTTA GGAAATGATA TAGATTATCT TGAATTTGGT TATGACAGTA     4740

ATGCGCAGCA AGTTTACATT GATCGTAGCC ATCTTATTCA AAAAATTCTA GGTGAAGAAG     4800

AACAGGACAC TAGTCGACGG TATGTAGATA TTGAAGCTAA AGAATTGGAA GTTGTTCTAG     4860

ATAAAAATTC CATCGAGATT TTTGTCAATC AAGGTGAAGC AAGCTTGACT GCAACTTATT     4920

ACTTAACGGT GCCAGCTGAG CTATCACGAA TTGATTAAAA ATTAAGTTAT TTCTCCTAAA     4980

GAAAAAGTTC TCTTTCTAAA ATAGTGGAAA GAGGACTTTT TGTGTTTTGG GTATATAAGC     5040

TTAGTTTATG GTATTTGTAA AATTGGTGTT GGATTATGAT TTAAGCTAGT TTTCTAAAGA     5100

ATTTGAAAAA AATTTTATTT AAGCAAAAAA ACCTTGGTTC CAAGGCTTTT CCTGTTGTAT     5160

TTAGATGCCC CCTACAGGGA TTGTAGGAGA TATGTTGCTT AGATGTTCTT GATTTTCTGG     5220

TGTTTTGTAA CGTTTAAATG AGTTTTTTGA GTTTGTTGGT GGGGCGTTGC CCGGCAATTG     5280

CCCGACTTAT TGCTTGAAAA AGAATTTAAA ATATAGTATA GTTAATTATA GATTAACACT     5340

TGCTTGGAGG AACTGATGAA GAACAATGAA AGATTAGGTA TTAAATTAAG TAGAGATAGC     5400

GTTTTAGGAT TGAGGGAAGT TAGAAGGCTT TATTTAGGCA GTTCAGATAT CCCAGTTTCT     5460

GATGGCTATG TGATTGAAGT TGCTTATAAC CAGATATCAC ATGAGATTGA TATTATTGAT     5520

TGGGTAGAGT TGAACAAGTC AAAAATTAAG ATAAGTGAAA TTAGTGAAAG CGTGGATATA     5580

GATGCCACTA GCTTGAGAAC AACTTTGACT TTAGACACAT TAGTATATGA AGGTATGAGA     5640

GATATACAGT TAAAGTTGAG AGAGCTTACA AAGGGGAGAG TATTCTTTTC ATTTGTAGTG     5700
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1179

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AAGTTAGTTT TGTTTGCTTC TATTTTAAAG AAAAAAGATT TACTAGAAAA ATTTCAAGAA      5760

AAGTGTTAAT CAAGTATTGA CACTTTATCT GGATTTCGGT ATAATATGCT TAGAAAGGAA      5820

TCTTTCTAAA TTTTTTTCGT CCTTATGTGT TAATCAAAGA CGAATACAAA AACATATTTT      5880

TTTACTCTAA AAAGTGTTAA TCAATGATGT ATTTGTTAGA GAGGTAGATA AATGGAATTG      5940

AGAGCACCAC CAGTTATAAT AGTATAAAAC GTATAATAAA AATATTTTAA CTTGAATTAT      6000

AGAAAAGGAG AAACAAATCA TGAAACAAAA ACAACCGATT GTTTCTAGAA CGAAACAACA      6060

TACATTTGAA GAGCTTATTC AAGACCAAAA GTTAGAAAGA TTGGCTAAGT TGTCGCCCGA      6120

TTTGGTTGGA AGGTATGGTT TTACTGCTAG CTGTGCGTCT TCATTTGCGA ACTTGATTAA      6180

AGAAGCGTAT GGGGGTAAAA ATCTAAACGT AGTTTATGCG AGTCGGATGT TGGCTCTCTG      6240

GAATATTGCT TGCAGTTGTT ATCATAAGGC TGATGGGTAT TCTTTAGCAG ATGCGCTTTT      6300

TAGTGATAAA AAAATTTGTC TAGATTCTTA CTATTACCAC AAGAATACCT CTAATACCAT      6360

AACTAGTGAT GTGATAAAAG ATGTTTACGA TAATTATAAT AATTATATGG TTTTAACTCG      6420

AGAAGCGACA CCTGAATACA TTTATGTTGT ACAAACTGAA ATGCCAAAAG ATTCAGATTT      6480

ATATTTTTAT ATTAGAGAAG TTCTGGGATT ATCGTTTAGT ACCATGCATT ATGCATTTTT      6540

AGTCAAGGTT CTTGCAGGAG CGCTTGCTAG AAAATATAAG CCATATCGAA ATTGAATTAT      6600

TTAAATTTAT ACTCTTCGAA AATCAAATTC AAACCAAGTC AGCTTCGCCT TGCTGTACTC      6660

AAGTGCTGTC TGTGGCTAGC TTCTTAGTTT GCTTTTTGAT TTTCATTGAG TATTACTCTT      6720

ATGGTAGTTA TTTATGGCAT AATAATATTG ATTTGGGAGT TATAGCGAAA ATTTTAGGTT      6780

CTATAATATT TGTAGTGGGT AAACCACTAT AGATATTATG GAGCCTATTT ATTGTAGAAA      6840

AAAGTCCCAT ATGA                                                       6854
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(2) INFORMATION FOR SEQ ID NO: 201:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3895 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 201:

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TCCTTGCTAA GTTTATACTC AATGAAAATC AAAGAACAAA CTAGGAAGCT AGCCACAGGT       60

TGCTCAAAGC ACCGCTTTGA GGTTGCAGAT AAAACTGACA CGGTTTGAAG AGATTTTCGA      120

AGAGTATTAA TTTACATAAA TAGCCAGTGT TTGATAGGGT TTGAGTAGAA TTTTCTCAGA      180
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                                    1180
CACTTCTGCA TCTTCATAGT TTGATATCAA AATCTGTCCA TTTTGGTAGA CTGCTGGCAA     240

GTCGATTTcA CTTCTTTAGC ATAAAAGTTA TTGAGCACTA GTAACTTTTG ATCCTCAAAC     300

TGGCGTTCAA AAGCGTAGAC TTGTTTGCTA TCTTCAAAGG CTGGTTTGTA ACTTCCTTCT     360

GAAATGATTG GCATTTCCTT ACGCATCGAA TCAAGTCTTG ATAGAAGGTA AAAATCGGAC     420

CCTGGATTTC ATTTTCTACA TTGATGTATT TATAGGATTT ACCAGCTTTC AACCAAGGAG     480

TGCCTGTTGA AAATCCTGCA TTTTCCGAAG CATCCCACTG CATGGGAATG CGTGAATTAT     540

CACGCGACTT AGCTTGAATA ATCTGGAAGG CTTCTTGCTG ACTCTTTCCT TCTTCTAAGA     600

GCATCTGATA GGCATTAAGC GATTCGACAT CCACATAATC AGCCATAGAA TCATAGTCTG     660

GGTCAATCAT CCCGATTTCC TCACCCATGT AGATATAAGG TGTCCCACGT GACAGGTGAA     720

TGCTGGCTGC TAGCATGGTG GCTCCTTCCT TGCGGAAGTT TTGAATATCG ACAAAACGGT     780

TCAAGGCACG TGGTTGATCG TGATTATTCC AAAAGAGGGC ACTCCAACCG TCTTTATCAC     840

TCATTTCCTT ACCCCAACTA TGGTAAAGAC TCTTCAACTC TTCAAAATCA AAGGGAGCCA     900

AGGTCCACTT TTGTCCATCC TTATAGTCCA CCTTGAGGTG ATGAAAATTA AAGGTCATGG     960

ATAATTCCTG ACGATCAGGC GACGAATAGA GGACACAGTT TTCCATGGTG GTAGAAGACA    1020

TTTCCCCAAC TGTCATAAAG CTATCGTCGG ATCCAAAAGT GGCTTGGTTC ATCATACGCA    1080

AATAGTTATG AACGATGGGT TTGTCTGTAT AAGCTGGCTT CCCTTCATTT TCAGGACAGT    1140

CCACTGAAAC CTCGTCCTTA CCGATCAAAT TGATCACATC AAATCGGAAA CCTTTGACAC    1200

CCTTGTCGCG CCAGAAATTA ACAACCTTGA AAAGCTCCTT ACGGACATTG GAATTGCGCC    1260

AGTTAAGGTC AGCCTGGGTC TCATCAAATA GGTGAAGATA GTATTTCCCA GTATCCCCGA    1320

AAGGCGTCCA TGCAGAACCA CCAAACTTAG ACTGCCAATC TGTTGGTTGG TCTTGGATGA    1380

AGAAAAAGTC TTGATAATAC TTATCACCAG CTAGGGCTTT CTGAAACCAT TCATGCTCTG    1440

TCGAACAATG ATTAAGTACC ATGTCCAGCA TAAAGTCAAT CTTGTGCTCT TTACCGACAC    1500

ACACCATTTT CTCAAAATCA GCCATATCAC CAAAAAGAGG ATCCACTGCC ATATAATCTG    1560

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CCACACCTAG TTTGGCTAAA TAGGGAATTT TTTCGATAAT CCCACGGAAA TCCCCAATAC    1680

CGTTTTCAGT GGTGTCTTTG TAAGATTTTG GATAGATTTG ATAGACTACT TTTCCTTTAT    1740

CAAGTGTCAT CTGTTTCTCC TTTTCTGATA AAAGGGAGGA AGCAGTCTTC CGTCCCTATT    1800

TGTGCTATTT CAATTATACT CAATGAAAAT CAAAGAACAA ACTAGGAAGC TAGCCACAGG    1860

TTGCTCAAAA CACTATTTTG AGGTTGCAGA TAGAGCTGAC GTGGTTTGAA GAGATTTTCG    1920

AAGAGTATTA GATTCGTGTA GCGACCATGA GAGATGCTCC AGCTTGGATC GTTGTCGGAT    1980
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1181

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AAGTTCCGGG AATAGTCGCT GTATAAGCAT CTTGGTTGGT GATGATAACA GGAGTTTCTG        2040

TCACCAGACC TGCAGCCTTA ATGACATCCA TATCAAAACG AATCAGTTGC TGACCAACTG        2100

TAACGTGATC TCCTTGGACT ACAAGACTTT CAAAACCTTT GCCATCAAGA CCTACTGTAT        2160

CCATACCGAT GTGGATGAGC AATTCAACTC CCTCGTCAGA GACAATGCCG ATGGCATGCT        2220

TGGTAGGGAA AAGAACCGTC ACTGTCCCAT TAACTGGAGA GGTCAACTCA CCTTGGCTTG        2280

GTTCAATGAC TAGACCTTGC CCCATGACAC CTGATGCAAA AATAGGATCC GTCGCTTGAC        2340

TCAATTCTTT CACTTGGCCA GTTAGTGGGC TGATAATTTC TACCGAAGTA AGTTCTACTG        2400

GTTCATGGTT CACAAATTCT GCTTCTTCTT GAGCAACGAA TTCTGCCTGC AAGTTCGTAT        2460

CGCCCTCTGT TTTTGTAAAG AGACCAGCCT TGCGGAAGAA GAAAGTCAAG AGCATTGGAA        2520

CAACAATCGC AACTAGCATA GTTCCTGCAA ATGGCAGCAT GTATTGAGGT TGAATAGAGA        2580

GAATACCTGG CAAACCACCG ATACCAATAG AAGCCGCAGT TACATTAAAA GTAACGGATA        2640

ACATGCCTGC AAGGGCTGAA CCAGTCATCC CAGCAACAAA TGGATAAATA TATTTTACGT        2700

TAACCCCAAA AAGAGCTGGT TCTGTAACAC CGAGATAGGC TGAAATGGTT GCAGGAAGTG        2760

AAACCTGAGC CTCACGCTCA TCATGGCGAT GCATGAAATA ATAGGCAAAC ACGGCTGAGC        2820

CTTGAGCAAT ATTAGAAAGA GCAATCATTG GCCATAGGGC AGTGCCACCA GCATCCGCAA        2880

TCAATTGTGT ATCAATGGCA TTGGTCATAT GGTGCAGACC TGTGATGACA AATGGAGCGT        2940

AGAGGGCGCC AAAAATTGCA CCGAAGAGCC ATTTAACTGG ACCAGTTAAA CCTGCCAAGA        3000

CAACTGATGA AAGTCCTTGT CCAATTGTCC AACCGATTGG TCCCAAAACA GTATGAGCCA        3060

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TATGCTTGTG CCAGAAGATT TCAAGATAAG ACAGACTCAA ACCTGCAAGC AAGGCTGGGA        3180

TAACTTGGGC TTGGTAACCG ATACGATTAA CAGTAAAATA GCCAAAATTC CAAACCCAGT        3240

TTGCCGCGAT ATCAGCTGCT GGCGTTGAAG CAACCGCATA GGCATTGAGC AACTGAGGCG        3300

ATACCAAACA GATTCCGAGA ACAATTCCCA AAATTTGGCT GGTTCCCATC TTACGAGAAA        3360

CAGACCAAGT AATCCCTACT GGTAAGAACT GGAAGATAGC TTCACCAGGC AACCAGAGGA        3420

AGTGATTGAC ACCTGCCCAA AACTGAGAGG ATTCTGTGAT GGTCTTGCCA TCCAACATCG        3480

ACCAATGGAC ACCTTCCAAG ACATTACGGA AACCGAGGAT CAATCCTCCG ACTATCAAGG        3540

CTGGAATAAT CGGAGTAAAA ATCTCCGCCA GAGTGGTCAT AACACCTTGG ACCACGTTTT        3600

GATTACTCTT AGCTGCAGAC TTGGCTGCTT CTTTGGAAAC ACCCTCAATA CCTGAAACGG        3660

CTGTAAAATC ATTATAAAAG ATGGGCACGT CATTTCCAAT GATTACCTGA AATTGACCTG        3720
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1182

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CATTTGTAAA GGTTCCTTTA ACAGCTGGAA TTGACTCGAT AGCTTTAACA TTAGCCTTCT        3780

TATCATCTCC TAAAACAAAC CGCATCCGTG TCGCACAGTG AGTTACGGCA GTCACATTTT        3840

CTTTGCCTCC GATTGCCTGA AGCAGATCTT TGGCTTCTTG TTCAAATTTT CCCGG            3895
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(2) INFORMATION FOR SEQ ID NO: 202:

     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 3936 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 202:

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AGGATCGCCG CTCCAGCTAC TAAGTCTCGT GCAGTGCCGA TTTATCAAAC AACATTTTTT         60

GTTTTTGATG ACACGTAGGA AGGTGCCGAT CTGTTTGCCT TGAGGAAACC AGGGAACATT        120

TATACTCGTA TCACCAATCC TACAACAGCT GCCCTTGAAG GTGGTGTTGA AGCGCTAgcA        180

ACAGCATCAG GTATGACTGC AGTGACTTAT ACGATTTTGG CGATTGCCCA TGCTGGTGAC        240

CATGTAGTGG CTGCTTCGAC TATTTACGGT GGAACCTTCA ATCTTTTGAA AGAACCCCTT        300

CCTCGTTATG GTATCACAAC AACCTTTTTC GATATTGATA ATTTGGAGGA AGTAGAAGCA        360

GCTATCAAAG ACAATACCAA GCTTGTCTTG ATTGAAACCT TGGGTAACCC CTTGATTAAT        420

ATTCCAGACC TGGAAAAACT GGCAGAGATT GCTCATAAAC ATCAAATCCC ACTTGTGTCA        480

GACAATACTT TTGCAACACC TTATTTGATT AACGTCTTCT CTCATGGCGT TGACATTGCC        540

ATTCACTCTG TGACTAAGTT TATCGGTGGG CATGGTACAA CTATTGGAGG AATAATTGTC        600

GATAGTGGTC GTTTTGACTG GACGGCTTCA GGGAAATTCC CTCAATTTGT TGACGAGGGT        660

CCAAGCTGCC ACAATTTGAG CTATACTCGT GATGTGGGTG CAGCAGCCTT TATTTATAGCT        720

GTTCGAGTTC AATTGCTTCG TGATACAGGT GCAGCCTTGT CACCATTCAA TGCTTTCCTC        780

TTGCTACAAA GACTTGAAAC CTCTTCACTT CGTGTGGAAC GCCATGTACA AAATGCTGAG        840

ACAATTGTTG ATTTTCTTGT CAACCATCCT AAGGTAGAAA AGGTAAATTA TCCAAAACTT        900

GCAGATAGTC CTTATCATGC CTTGGCTGAG AAATACTTGC CAAAAGGTGT CGGTTCAATC        960

TTTACCTTCC ACGTCAAAGG TGGCGAGGAA GAAGCACGCA AGGTCATTGA TAATTTAGAA       1020

ATCTTTTCTG ACCTTGCAAA CGCGGCAGAT GCTAAATCGC TTGTTGTCCA TCCAGCAACA       1080

ACCACTCACG GTCAATTGTC AGAAAAAGAC CTAGAAGCAG CAGGTGTCAC ACCAAACTAA       1140

ATTCGTTTGT CAATCGGTCT TGAAATGTA GAAGATTTGA TTGAAGACTT GCGCTTGGCC       1200

TTGGAAAAAA TTTAAAGTAA AAGAAGATAA ACAGTGGGCT TCGACTCACT GTTTTTGATT       1260
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1183

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TTCCCTCAGG CATGATATAA TGGTTACAGA AGTCTAGAAA GAGGAACGAT ATGAACGAAA    1320

TCAAATGTCC CAACTGTGGG GAAGTCTTTA CAGTAAATGA GAGTCAGTAT GCCGAACTCT    1380

TGTCCCAAGT GAGAACGGCA GAGTTTGATA AGGAACTACA CGATAGGATG AAGCAGGAAC    1440

TGGCCTTGGC TGAGCAAAAG GCCATGAATG AGCAACAGAC TAAACTGGCT CAGAAGGATC    1500

AAGAAATTGC GCAATTACAG AGTCAGATCC AAAACTTTGA TACAGAAAAA GAATTGGCCA    1560

AGAAAGAGGT TGAACAGACA AGCCATGAGG CTCTCTTGGC TAAGGACAAG GAAGTACAGC    1620

TCTTAGAAAA TCAGTTGGCT ACCTTGCGTT TGGAGCATGA AAATCAACTA CAAAAGACCC    .1680

TTTCTGACCT AGAAAAAGAA CGGGATCAGG TTAAAAACCA ACTACTTTTG CAGGAAAAGG    1740

AAAATGAATT ATCTTTGGCT TCTGTTAAGC AAAACTACGA AGCCCAGCTC AAGGCAGCTA    1800

GTGAACAAGT CGAGTTTTAT AAGAATTTTA AGGCTCAACA ATCTACAAAA GCGATTGGGG    1860

AAAGCCTAGA ACAGTATGCA GAGAGTGAGT TTAACAAGGT TCGTAGTTTC GCCTTTCCAA    1920

ATGCTTACTT TGAGAAGGAT AACAAGGTCT CTTCGCGTGG GTCTAAAGGG GACTTTATCT    1980

TCCGTGAGTG TGATGAAAAT GGAGTTGAAA TCATTTCTAT CATGTTTGAG ATGAAAAACG    2040

AAGCGGACGG AACAGAGAAG AAGCACAAGA ATGCAGATTT TTACAAGGAA TTGGACAAGG    2100

ACCGTCGGGA GAAGAACTGT GAGTATGCCG TTTTGGTGAC CATGCTTGAG GCTGATAATG    2160

ACTACTTTAA CACAGGGATT GTTGACGTCA GTCACGAGTA TGAAAAAATG TATGTTGTTC    2220

GTCCTCAATT CTTTATCCAA TTGATTGGTC TCTTACGTAA TGCGGCGCTA AATTCCCTAA    2280

AATACAAGCA GGAGTTGGCC TTGGTTCGCG AGCAAAATAT TGACATTACG CATTTTGAGG    .2340

AAGATTTGGA TGCCTTTAAG CTAGCTTTTG CTAAGAACTA TAATTCAGCT TCGACTAACT    2400

TTGGAAAAGC TATTGATGAA ATCGACAAGG CCATCAAACG CATGGAAGAG GTTAAGAAAT    2460

TCCTGACCAC ATCTGAAAAC CAACTCCGTT TAGCTAACAA CAAATTGGAA GATGTCTCTG    2520

TTAAAAAATT GACCCGGAAA AATCCAACAA TGAAAGCGAA GTTCGAAGCA CTGAAGGGGG    2580

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TCGAGTTTAT GCAGGACGAG GGTAAGATCT ATGAGGGGGA AATCACTCTG GGCTATTCCA    2820

CGAAGACTGA GGATGCTAGT GGGGAAGTGG TCGCAGAAAC CCCTGTTTTG TCTCTCTTGG    2880

ATGAAAAGCT TGTTGATGAA GCGATTGCTA GCTTGACTGG GCCTATTACT CAGATTCCCC    2940

CTATGTATTC GGCAGTTAAG GTTAATGGTC GCAAGCTCTA TGAGTATGCG CGTGCTGGTC    3000
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1184

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AGGAAGTGGA GCGTCCAGAA CGTCAGGTGA CCATTTATCA ATTTGAGCGA ACAAGTCCGA      3060

TTTCTTATGA TGGCCAACTT GCCCGATTCA CTTTTCGTGT AAAATGCAGT AAAGGGACGT      3120

ACATCCGTAC TTTGTCAGTT GATTTGGGTG AAAAGCTTGG TTATGCGGCT CATATGTCCC      3180

ATTTGACTCG TACTAGTGCT GCTGGCTTAC AATTAGAAGA CGCTCTTGCC TTGGAGGAAA      3240

TTGCTGAAAA AGTAGAGGCT GGGCAATTAG ATTTTCTCCA TCCTTTAGAG ATTGGGACAG      3300

GTGACCTTGT CAAAGTTTTC CTAAGTCCAG AAGAGGCTAC AGAAGTTCGC TTTGGTCGTT      3360

TTATTGAGCT AGACCAAACG GACAAAGAAC TGGCTGCCTT TGAAGATGAT AAATTGTTAG      3420

CCATTCTAGA AAAACGGGGC AATCTCTATA AGCCAAGGAA GGTTTTTAGC TAGATCGTTT      3480

AGGAATAAAA ATCGGGTGAT AGATAACAAT TGCTTGATAA AACCCCATAC TAATAGTAGA      3540

ATGGTTTTGG GAATTATAAT ATTCCAATTG TTGCGAGTTG TAGGTACTCA AATAATCTAT      3600

ATAGAAATTT AGAGGTGTGA AATGAAGCAA TTTAAAATTC TTTCAGATAA ATATTTAGAG      3660

TCCATTACAG GTTCTGATGG GAACTTAGGC CCAGGATTTG GTGTGATAAT TCCATGATGC      3720

GAAATGAGTT TCGAGAAAGG GTGGAGCAAC TTCTTCAACA AAAAGAAATA AATGAAAATA      3780

GTGAGTTGAG TCACCTGTTT CGTCTTGCTA TACAAAATTT AGACAGAAAT GAAAAATACC      3840

AATCGGTCAT GGCCAATTTG AGTCAAGGGT TGTCACTTTA CCTCATGACG CATCATTACC      3900

AGGCACCTAA GTCTGTCATT GATTTTGGTT TATGGA                                3936
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(2) INFORMATION FOR SEQ ID NO: 203:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3230 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 203:

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CATCCAGCAA CTGCTCCTCT GAGCGTTTCA AAATTGATGT AATTTTTCTA GTTTTTTCTA       60

ATAAATGTGC CATTTTTCAC CTCGAATTTA ATCGCTATCA TTATAACATA AAAACGTCTC      120

TTTTTCAATA ATTATCTGAA AATTCCTTAT TGACTTGCAT TGACTTACAA TTTAATTAAA      180

AACCAGAATA TTTTTAATTA AATTGTTCCT TTTCTATTGA CAAGTTGCCT ATTTTTGTGT      240

ATCATAATAT TATAAAGAT AATATAATAA TTTTATTTGT CTTTTCACAT TCGGTCTCCT      300

TATATAAAAA AGCGATTCAT TTTGAACCGC TTTTTCTTAT TTATCGCCTT TGTTACGAAT      360

AACAAAGCCT GTTTGCTTTT CGCTTAAAGT ATTGCGTGGT TTTTTATTAT CCTTACGGTA      420

ACGTTTTTCC TTATCAAAAC GATCGTTGCC ACGACTTCCT TTTTTGAACT CATCACGGCG      480
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1185

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ACCATTGCCA CGGCGATCAC GCTCTCGACG GTCGTCCCCA CGACGGCCTC CACGACCTCC      540

CTTAGCTTTA CCACCGAAAC CATTACCTGA TGGTTTAAAC GGTAGTGGtT TTTCACGTGC      600

AATCTCCACT TCTGGAAGGC TATCTGGGTC TTGGACTGTC AGACTCAAGA TATACATTGC      660

CAATTCTTCT GGAGTAAACT CAGCAGCCAA TTTGCGAGCA TCCTTACCAA ATTTCTCAAA      720

GTTGGCACGA ATGGTTTCAT CTGCAAAATC ACGTTCGATT TTCTTGAGAG CTACCTGTTT      780

TTTTGATTGG AAGGATTCTT CTACACTTGC AGGTTTGAGA CCTTTCATGC GTTTCTTAGT      840

CAAGTTTTCA ATGATTTGAA GGTAACCCAT TTCGTTTGGA GCAACAAAAG TAATAGATTG      900

ACCTGACTTA CCAGCACGAC CTGTACGACC GATACGGTGA ACATAACTCT CAGGATCTTG      960

TGGAATATCG TAGTTGTAGA CATGGGTCAC ACCTGAAATA TCCAAACCAC GCGCTGCAAC     1020

GTCTGTCGCA ACCAAAACAT CAAGATTGCC ATTTTTAAAG TCACGAAGGA CACGAAGACG     1080

TTTGTTTTGG TCTAGGTCGC CATGAATTCC TTCTGCACGG AAGCCACGAA TTTTCAAACC     1140

ACGAGTCAAT TCATCCACAC GGCGTTTGGT ACGACCAAAT ACAATAGCGA GTTCTGGTTG     1200

TGCCACATCC ATGAGACGAG TCATGGTGTC AAATTTTTCT TGTTCCTTAA CACGGATATA     1260

GTACTGGTCA ACCAATTCTG TTGTCAATTC CTTAGCCGCA ATCTTGACAT GTTCAGGGGC     1320

TTTCATAAAC TGAACACCGA TACGTTTGAT GGCATCTGGC ATAGTTGCTG AGAAAAGCAA     1380

AGTTTGACGG TTCTCAGGTA CACGGGAAAT AATGGCTTCG ATGTCTTCAA GGAAGCCCAT     1440

GTTAAGCATT TCATCCGCTT CGTCAAGGAT AAGGGTTTCA ATGTCTTGTA ATTTCAAGGC     1500

CTTGCGTTTA ATCAAGTCCA AGAGGCGACC TGGAGTTCCC ACCACAATAT GGGCACCAGA     1560

TTTAAGAGCC TTAATTTGTT TTTCAATGCT TGATCCGCCA TATACTGAAC GGACTTTGAC     1620

TCCCTTACTA CGACCAAAGC GGAAGAGTTC TTCTTGACTT TGGACAGCTA GTTCACGAGT     1680

TGGAGCGATG ACCAAGGCTT GGATAGTCGC TTCTTCTGTA CGGATTTTTT CAAGGGTAGG     1740

CAAGCCAAAG GCTGCAGTTT TTCCTGTACC AGTCTGAGCT TGACCGATAA CATCCTTGCC     1800

TTCAAGGGCC AAAGGAATAG TTTGTTCTTG GATAGGACTA GCTTCTACAA AACCAGCTTT     1860

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CTTTCTAAAG GTGGTGCGAA GCCACCCTAT AGGGCTTAGT TTATACTTTT CTTTTTATGA     1980

CGTATTTTCA TATAACTAGA TATAAAATCG TGTTGCTTCT TTTCCACAAA AGAAAAGTAC     2040

TGTTTTCTTT GCAACCTATC TAGTATAACA CAAGACCAGA GCAAAAGATA GCCCCATTTC     2100

TACAGAAAAT CATGTAAGCG CTTTTTGACT TTCTTTTTTG ATTGAACGAC CTAGATAATA     2160

AGACAAAGCC AAGGCGATAC TGTATAAAAT GAGAAAAACG AACAAGGTTT GTGTGTACGA     2220
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1186

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ATGAGCCATT TTATAAGTCT CTGCTAATAA AATAGGTCCC GCTAAACCAG CCATTGCCCA      2280

AGCTGTTAAA ATATAACCAT GCAGAGCGGC CAATTCCTTG GTTCCAAAAA TATCACTGAG      2340

ATAAGCTGGA ATCAAAGAAA AACCAGCTCC ATAGCAAGTC ATCAAAATAG ACATAGCAAC      2400

TACAAATAAA ACGGAATCTG TAAAGAGCCA AAGTGAGAGA GAAAAGAAAA GATTGACAAG      2460

CAGTAATATA CTAAAGGTTA GAGGGCGACC GATATAGTCA GACAAACTCG CCCAGAGCAA      2520

GCGACCAAAT CCATTGAAAA TCCCCAAAAC ACCCACCATT ACTGCTGCAT GACTTGTAGA      2580

CAAGCCAGCC ATCTCCTGTG CCATTGGCGA TGCCGCTGAA ATTAAGCCTA AACCACAAGC      2640

TATGTTGATA AAGAAAATAA TCCAAAGCAT ATAAAACCGA TTGCTTTTTA GAGCCTGATT      2700

TGCAGCCATT CCTTGCGTCA AAGAGGCTGT TTTTTCTTTC CCTGAAGAAG ATAAAATTGC      2760

AAGCTCTTGC TCATTTGGAC GCTTAATGAA TTGTGAAGCT AGGAGCATGA TAATAAAGTA      2820

ACTTGCTCCT AAAATATAAA AAGTTTCTAC AAGCCCTACC CCTGCGATGA GGTGTTGCGC      2880

TATGGGACTA GTCAATAAAG AAGCAAAACC AAACCCCATA ATCGCTAAAC CTGTTGCGAG      2940

ACCACGTTTA TCAGGAAACC ATTTTATAAT CGTCGACACA GGGGTAATAT AGCCTGCTCC      3000

CAAACCAAGC CCACCTAAAA TGCCATAAGC GAGATACAAC AACCACAGCT CTGACGGTCT      3060

ATTGCAAATC CTGTTAAGAT ATTTCCACCT GCGTATAGAA AAGCAGATAG ACTTCCCATG      3120

ACTTTCGGAC CAAATTTTTC TACCAAACGC CCCATAAATG CAGCCGATAA GCCCAAACAA      3180

AAGATTGCTA GACTAAAGGC GAAGGCAACA GAAGCCTGAT CCCATCCCGT                 3230
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(2) INFORMATION FOR SEQ ID NO: 204:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5096 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 204:

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CCTATGAAGA CTGTCCCAAC TGGGTGTCCT TCTAGGCTAT CTGGTCCTGC CACTCCAGTC      60

AAACTAATTC CAAAATCAGA CTGGGTCTTG CTTCGTGCCT GCTCAGCCAT CTTCTGAGCT      120

GTAAATTCAG ACACCACACC ATGTTCTTCC AAATTCTTGG CAGGAATATC CAACATCCTT      180

GATTTTTCCT CCAAGCTATA GGTCACAAAA CCACCCTTAA ATATACTTGA AACTCCAGAA      240

AAATTCGCCA CGGTAGCTTG GAAAAGACCT GCCGTCAAAC TCTCTGCAGC CGCGATGGTT      300

TTCCCTTGCC TTTTCAGTTC TTCTACCACA ATGCTGGCTA AACTAGTTTC TTCCCCATAA      360

CCATAGCAAA AGTCTCGTAA AGAAATTCCT TCGAAAGTCT GGCAGTCCAA GATTTGATTT      420
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1187

TCCAAGATAT	CCAGCGCTTG	ATTCGCCTCT	TCTTGACTGC	TAGCCTTTGT	TGACAGACGT	480
AGAGTGACTT	CTCCTGTCTT	GGCATAAGGG	GCCAAGGTAG	GATCGATCTG	ATTATCAATT	540
AAATCAGCCA	AAATCGTAAC	CAACTGGCTC	TCGCCAATCC	CAAAGAAACG	AAGAACTCGG	600
GAATACAGCT	TGCTCCCTGT	CATCAACTTG	GGTAGAAGTT	GGTTTAAGAC	CATGGGTTTC	660
AATTCACTTG	GCGGACCTGG	AAGGACGACA	TAGGTCACTC	CGTCTACTTC	TAATTTTCCT	720
CCAACAGCCA	GTCCTGTTTC	GTTTGGCAGT	GGAATCGCTC	CTTCTACAAT	TTGAGCTTGT	780
CTTTCGTTAT	TCGGTGTTCG	GGCATAGTCT	GGTCGCAGGG	TAAAAAAGAT	ATCCAACTTC	840
TCCTGAGCCT	GAGGATCAAA	GACTAATGCT	TTCCCTAAAA	ATTTAGCTAG	GGTTTGTTTG	900
GTTAGGTCGT	CCTCAGTTGG	CCCCAAACCG	CCTGTCAAAA	TCACCAGACT	GCTACGTTGA	960
CTGGCAATCT	CAAGCAAAGA	CAAGAGACGA	ACTTCATTGT	CTCCTACAGC	CGTCTGAAAA	1020
TATACATCTA	CCCCAATCTC	AGCTAGTTTT	TCCGACAAAA	ACTGGGCATT	GGTGTTGACA	1080
ATCTGCCCTG	TCAAAATCTC	TGTTCCAACA	GCAATGATTT	CTGCTTTCAT	GTTTCCTCCT	1140
ACCTATCTAT	TCGTATTTTT	TTGAAAAAAT	CGCAGGAATT	TTCCTACGAT	TGATTTTTTT	1200
ATTTGTATCA	AAAGTTAATT	ATCTTCATCA	CCAACAGGTG	CTCTGCCAAA	TAAATCTTCA	1260
AATAAAACCG	CATTGGTTTC	AAGCTGAGTA	ACTTCTTCTT	GTCCCAAAGA	ACGTCGGAGT	1320
AGATTTTGCA	TTTCCAACAT	ATGTGCTCTC	GAAACAATCT	GGTAAGAAAC	ACCTTGAAGT	1380
ATCTCTCCTT	CACCCTGCAA	CTGCTGAGTT	TCAATGGTTT	TAAATGAATC	TTTATAGCCT	1440
AGCAAGTTAG	GGATACTTTT	TGCAGACAAA	TCAATATTGG	TCTGCATATT	GTCACTCAAA	1500
GCTTTTAGAA	TCTCTTGATA	ATGACCAATG	CTATTTAAAC	TGAGAGCTTT	TTCCATGACT	1560
TTTTGAATAA	CTTCACGTTG	ACGTTTTTGA	CGACCATAAT	CCCCCTCAGG	ATCTTGGTAA	1620
CGCATTCGTG	CATAGACTAG	GGCTTCTTCT	CCCCCAATAT	GTTGCTCCCC	AACACCGATA	1680
GAAATAGTAT	TAAATTCTTC	TTGGTCACTG	ATAGAAATTG	GGAAACCTAG	GATATTATTG	1740
ACTGTAATAC	CTCCTACTGC	ATCCACTAGT	TTTTGCAATC	CTCTCATATT	GACCATCACA	1800
TAGCGATCAA	TATGGATATT	CATCATTTTT	TGAATGGTTT	CTATAGCAAG	CTCTGCTCCA	1860
CCATCTGCAT	ATGCTGAGTT	CAGTTTCGCT	TCATGAGCCT	GACCATTCCC	TGATTCAATG	1920
CGCGTCAGAA	TATCCCGCTC	TAAACTCATC	ATTGTTGTTT	TTTTCGTTTT	AGGATTCACT	1980
GTCATCAAGA	TCATGCTATC	ACTTCTACCG	ACCCAAGTTT	CAGTTCGTTC	AACATTTCCG	2040
GTGTCCACTC	CCATTAACAG	AATGGTTAGA	GGTTCAGTCG	CTTCAATAAC	CTTGGTTTCT	2100
TCACCGATTT	TTTTATAGGT	TTTAGCTAAG	GTTTCTGTCC	CTTGTTGATA	AATAGTATAA	2160

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                                           1188
         GCAAAAACAC CTACTCCTAC TACAGTTACA GAAAGTAAAG CTAGCACCAT TCCAATAATT        2220

         TTTTTAACCA TATTTCTACT AACCTATCAG TTTACCCATC AAGTAAACAT CGATAAATTT        2280

         CCCTTCTTCT ATATATGCCC CACGCTCTTG GCTACCTTCA ATGACAAAGC CATGCTTTTG        2340

         ATAAAGATGG ACTGCTGCTT GATTACGAGT TTGGACAGTC AGTTGGAGAC GACGCAGAAT        2400

         GCCACTTGCT TGTGCCCACT CTATCGCTTC TTCTAGCAAC AAACTTCCCA AGCCATTATT        2460

         CCAATATCTT TTTCCAATCA CAATGAAGAG ATCTCCAATA TGACGGACTC TCTTACGCTG        2520

         ATCAGCTGTA ATATTTACAA TACCAGCAAT TTTGCCATTT AAGAATGCAA GTAAGGTTAT        2580

         CTGATTGTCC GAACTAGCTT GCTTGTTGAG GAATATTTCC ATCTCCTCAC TAGTCAAGAG        2640

         AATACCATCT CCGTCTAGGC TGGTAAAGTC TGTCTCCAAA CTCACACGAT TTAAAAAGGC        2700

         CACTAATTCA GCTGCATCTT TGGGCTCTGC TTCCCTAATG AGCAATTCAT ACTCCATATT        2760

         GAAGCTCCTC TAACAATTTC TCAGCACGCA AACCCTTTGC CTGAAAATTT AAACGGCGTC        2820

         CATCTGCTTC TTTTAGAATT TCCAATTCTA AATAAGCATC TGGCAAGGCA TCTCCTAAGA        2880

         GATTTCCCCA CTCAATAACA GTCACGCCGC CACCAAAGAT AAACTCATCC AAGTCGATAG        2940

         AATCAGCATC TCCTTCAATA CGATAAACAT CTAGGTGATA AAGTGGAAGT CGACCTTCAT        3000

         ACTCTCTCAC GATAGTATAG GTGGGACTTT TAATCATTTG AGAAATCTGT AATCCTTTTG        3060

         CAAGTCCTTT AGTAAAGGTC GTTTTACCTG CACCCAGTTC TCCAGTTAAG ATTAAAACAT        3120

         CATTCTTTGC TAATAGATGG CCCAAACGCT CCCCTAAGGC TTGCAACTCT TCTTCATTTT        3180

         TTGTGTACAT ACTCTTATTA TACCAAAAAC TTTTCTTTTG TGTCTATTTT CCTACTAAAC        3240

         TTATCATCAT AACATCCATA AAAAACAGGC TTTCTCTAAA AGAAAATGAG CGTAACAATG        3300

         ACCAATACAA GATCTCGGAA AATATGACCA TAAAAGGAAA CTTCCTTCTT AACCGAATTT        3360

         GGGACAAGAT AGGCTGCAAA AAACAAGCCC AGTCCAATAT AAATCAGAAG TGAGACAATG        3420

         GTCATTGGAT TTCTTAAGAA AAGAAGTGTT GCTAAAATAG TCACCAACAC TGTCTTTTTT        3480

         CTGTCCAGCA TAGCAAGAAA ATCGCGCACG TATTTTTTCA AGGGTAAAAA AATCAGCAAA        3540

         TCTAGCCCAA ATAGGAAAAA GAAGGATGGC AATAAAAAGT CAACTAATTC TTGCTGCAGC        3600

         GTATTTTTGA TGAACAAGTT ATCTGACAAA ACAAGAACAG CTCCTAACAA ATTAATTAAG        3660

         AGTAACATAC TGTAAAAAAG CTTCACCGAC TTCTTACTGG CTAGGACACT ATGGACTTCT        3720

         TGCTTACGGG TATAAAGATA ATTTACTCCA GCACAGATTC CTGAAACGAA AACCATGCTT        3780

         CCGATGAAAA AAGCTGTACT TTGTTAAAG GACAAGATGC ATTCCTTCCA TAGGAAACAG        3840

         CTACTCAAAC TGATTTGAAT TAAAGCTAAC AAAAATAAGA TTCTCATTGA TTTCATCTTC        3900

         TCTCTCCCTT CCTACCAATC ATTATACTAG GAGAAAAGAG AGAACTGTTT CTAATCTTCT        3960
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1189

CAAATGTCTC TTTAAGACGC TAAACAAACA CTAGAGACTA ATACTCAATG AAAATCAAAG   4020

ATCAAACTAG GTAGCTAGCC ACAGGTTGCT CAAAACAGTG TTTTGAGATT GCAGATAGAG   4080

CTGACGTGAT TTGAAGAGAT TTTCGAAGAA TATAAATTTG AAATCATGAA AATCCGTCAA   4140

ACGGGTGGTT GTTTTGTCTC GCACCTCACG GAGCGAGACG GACTCAGAGT CACATAATTA   4200

TAAGGCTGAT AGTATTAATC TAACTATCAG CtTmCAGGTT ATTTAACGTT TCAGAAAAAC   4260

TATAATGTCA AGATTAACTA AACAGTATCT AGTTCCTTCA AATAATTTTC TATCTTCATC   4320

AACATTAAAG GATTGTTATA AATCTTACAT AACTCTCTTG CTTCTATATA ATAATTTTTG   4380

ACTTGTTCTC TGTCTAGAAA TTTGGCTCCA GCATTTCCTA CAAGAATAAG TAGAGGAGCC   4440

AATTGGTAGC TTGTCTGTCT TTGTTTACAG AGTTCAATCG TTTCAAGAGC TTCTTGGATG   4500

GCTTCATTAT ATTTTTCCTT TGATACTAGG TAGTGAGCGT AGTTGTAACG AACTCTGATG   4560

TAGCCAAATA AAAACTCTTG ATGGTCCAAA TTTTTTGTCT GATACAACTC TATTAAATGA   4620

GAGTAGTTTG CCTCATATTC TTGTTCACGA CCCACTAAGG AATAGAAATT AGATAGAGTA   4680

TTCAACGCCT TTAAATAAAT CAGAGTATTT GAAGAGACTT TTAATAATAT ATTTTCCAAT   4740

GACGAAATTG CCTCACACTT ACTGTCATAT TGATAGAAGT CAATTATAGA TTTAATCCAT   4800

TCAAGGTAAG TTCGGTCTTC TAATGTTAGA AAAGTGCTTC GTTCTACTTC TATTTTATAA   4860

AGATATTCTA AATCGTCATA ATTTCTGTCA TCTAATAGGC GAGCAGATAG ATGTTTGAAA   4920

TTAGAGAGGT TAGACTTAAC TTCGATTTGT TCATTGAAAA AGTAATCCAA AGGGACTTCA   4980

AGTCGTTGAG AGAGTTTGAA TAACAAGTCT GCGGAGGGAA TAAAATGACC TCTTTCAATT   5040

TTACTAATCT GGCTTTGTTC ACAAATTCCT TCTGCAAGAG TTTGTTGGGA GAGTCT   5096

(2) INFORMATION FOR SEQ ID NO: 205:

      (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 2395 base pairs
         (B) TYPE: nucleic acid
         (C) STRANDEDNESS: double
         (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 205:

ACAAGATAAA AATAAAGGAT TACAATGGGG AATATAAAGT AAACCGGTAA ACCTAAAAAG   60

AAAGGAGAAA AGATGAAAAT TGTACTTGTA GGGCATGGAC ATTTTGCTAC AGGGATTTAT   120

AGTTCTTTAC AATTGATTGC AGGTAATCAA GAAAATGTGG AGGCGATTGA CTTTGTGGAA   180

GGAATGTCAG CAGATGAACT CAAGCAAAAA ATCTTACTTG CAATTTCAAA TGAAGAAGAA   240

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                                          1190
GTTTTAATCC TAAGTGATCT CTTGGGAGGA TCGCCATTCA AGGTTTCTTC TACCATAATG        300

GGAGAAAATC CAGCCAAGAC AATGAATGTT CTCTCGGGTT TGAACTTAGC CATGTTAATG        360

GAAGCAGTCT TTGCTAGAAT GGCTCATAGC TTTGATGAGG TTGTTAATAA ATCAGTAGTG        420

GCGGCCCAGG GCGGAGTCGT AAATGGTAAA GAATTGTTTT CAACGGATGC AGAGGAAGAG        480

GAAGAAGATT TCGAATCGGG TATTTAAAGG GTAAAAGAAT GATAAAAAAG GTTACGATTG        540

AAAAAATAAA ATCGCCTGAG CGCTTCTTAG AAGTACCACT TCTGACGAAA GAAGAAGTCG        600

GCCAGGCAAT CGATAAGGTT ATTCGGCAGT TAGAACTCAA CCTTGACTAT TTCAAGGAAG        660

ATTTCCCGAC GCCAGCTACC TTTGATAATG TCTATCCAAT CATGGATAAC ACGGAATGGA        720

CCAATGGTTT CTGGACAGGA GAACTGTGGT TGGCTTATGA ATACAGTCAA CAGGATGCAT        780

TTAAAAACAT CGCTCATAAA AATGTTCTTT CTTTCCTGGA TCGTGTCAAT AAGAGAGTAG        840

AATTGGATCA CCATGATCTC GGCTTCTTGT ACACACCGTC TTGTATGGCT GAATATAAGA        900

TAAATGGAGA TGGAGAGGCT AGAGAAGCAA CCTTGAAAGC TGCAGATAAG TTGATTGAAC        960

GCTATCAAGA AAAAGGTGGT TTTATTCAAG CTTGGGGAGA CTTGGGCAAG AAAGAGCATT       1020

ACCGTTTGAT TATCGACTGC TTGCTCAATA TCCAACTCTT ATTCTTTGCT TATCAAGAAA       1080

CAGGCGATCA AAAAATACTAC GATATTGCAG AAAGCCATTT CTATGCTTCA GCTAATAATG       1140

TAATCCGTGA TGACGCTTCG TCCTTCCACA CCTTCTATTT TGATCCTGAG ACAGGTCAAC       1200

CCTTTAAAGG TGTAACGAGA CAAGGGTATA GTGATGATTC ATGCTGGGCA CGTGGTCAAT       1260

cATGGGGAGT CTATGGTATT CCTTTGACTT ATCGTCACTT AAAAGACGAG tCCTGCTTTG       1320

ACTTGTTTAA GGGTGTGACC AATTATTTCT TGAATCGTCT GCCAAAAGAT CATGTGTCCT       1380

ATTGGGATTT GATTTTTAAT GATGGTAGTG ATCAATCACG AGATTCTTCA GCAACAGCTA       1440

TCGCCGTCTG TGGGATTCAT GAAATGCTAA AACATCTCCC AGAGGTGGAT GCTGACAAAG       1500

ATATTTATAA ACATGCTATG CATGCCATGC TTCGTTCCTT GATCGAACAT TATGCAAATG       1560

ATCAATTTAC CCCTGGTGGG ACAAGTCTCC TCCACGGTGT GTACTCATGG CATTCAGGTA       1620

AAGGAGTGGA TGAAGGCAAT ATCTGGGGTG ACTACTATTA CCTAGAAGCC CTTATCCGTT       1680

TCTACAAAGA CTGGAACCTA TATTGGTAGG AGGAGAAATA TGACAATGCC AAATATTATT       1740

ATGACCCGTA TCGATGAACG GTTGATTCAT GGACAAGGAC AACTTTGGGT AAAATACCTA       1800

GGTTGTAATA CGGTCATTGT TGCCAATGAC GAAGTAAGCA CGGACAAGAT GCAACAAACT       1860

CTGATGAAAA CAGTTGTGCC AGACTCAGTT GCCATGCGTT TCTTCCCTTT GCAAAAGGTG       1920

ATTGATATCA TTCACAAGGC TAATCCTGCT CAAACGATCT TTATCGTTGT AAAGGATGTG       1980

AAGGACGCTT TAACCTTGGT AGAAGGTGGT GTCACTATCA AAGAAATCAA TATTGGGAAC       2040
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1191

ATTCACAATG CCCCTGGTAA AGAGCAAGTG ACACGCTCCA TCTTCCTGGG TGAAGAGGAC   2100

AAGGCGGCCC TCAAGGAATT GAGCCAAACT CATCAAGTAA CATTTAATAC GAAAACAACT   2160

CCAACAGGAA ATGATGGAGC TGTTCAAGTC AACATTATGG ACTATATTTA ACAGAGGAGA   2220

TCGTTATGTC GATTAATGTA TTTCAAGCGA TTTTAATTGG ATTATGGACA GCTTTCTGTT   2280

TTAGTGGAAT GCTGTTAGGA ATTTACACCA ATAGATGTAT TGTTCTGTCA TTTGGTGTCG   2340

GAATTATTCT AGGTGATCTG TCATGCTCTT GCAATGGGAG CCAATGGTGA ATTGG   2395

(2) INFORMATION FOR SEQ ID NO: 206:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3342 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 206:

CCTTCTTTAG AGGTTAATTT TGCAAAATCG TCGATTGTTA TATAAGGATT ATTATAGAGA   60

CTGTTCGCAA AGAATCTCTG ATATGTTTTT GAATCTTTTG AATACAAAAC TATCTCTCTA   120

ATAGCATTGC CATCTGTTCC ATCAATTGGT AAACATACCG TAACTAGAAA AAGAATTATA   180

TTCAAAATAA AAAATTCTGA TGCGTACGGC ACAAATCCCA AAAGTGCTAA TATTGCGACA   240

ATTAGGTTAG CTCCACCTCC CCCAAAGAAG TAGAACACCA AATTCCTATC ACTATTTTTT   300

TCATTAGTAA TGTTTCTATT ACTCATTTGA CAATAACCGA ATGCTAATAA CACTGGAAAT   360

TTGAAATATA TTTTTTTTCT GAAATAGAAG AAAAAGGGAG TAGCAAGCAT CTCTAGTTTA   420

TAAGATAAAC ATCTTCCCAC TAAAAAATGA CCTAGTTCAT GTAATGTAAT TGATATTAAC   480

GAAATTAAAA TCAATCGAAA ATAATAGATT AATGAATCAT TTGGAAAAAT TATCAATAAT   540

AGGAACAATA ACGGAATCAA ACATAAATAT ATGACAGAGT TATTTAATAT TTTCAACATA   600

ATACCATTCC TCTAAACTAT TAGCTTCAAA AAGGCGTTTT TTCTCCCAAT ACATCTTCTC   660

AAAATGTTCG GAATCATAAT TTTCTAAAAT TAATTTTAtG TCTGGTAAGC TCTTTCTTGA   720

TAATCCGTTG TTTTGTACTT AATTTTCCCT TCAAGTACAT CTTCAATTTT ATAAGTTGCC   780

TCCATCAACT GAGCCTCTGC AATATCTTTG AGTGAATTGG TAATTGAAAC TTGGTGTAAT   840

ATCTGTCCts CCATATATGA AAATATATCT CTAAGATATT CTGCACACATT ATCAGAGCCG   900

TTACTCTCAG CAACATCTAA TGTTACAACA AACTTTCCAG CTAATCGAAA AAGATGGCTC   960

CACCCCCCAA TCCTTTCAAT AAAGTTTTTT GTGTCCACAG ATACGTTTTG TAAATATACA   1020

1192

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GGAGAAGAGA TAATTATAAT ATCAGACTCT AATAACTCTT TTTTTATAAC ACCTCCATCA        1080

TCAGCATTAC TTTGCCTATC AATTCCTTTC TTAAACAACT CTTCTGAATC AGAATTAGAT        1140

ATTTCTAGCT CTGAATTGAA AGGTGTCCTG AAAGATATAT CAACATTATT TCTACTAGAA        1200

ATGATACTTG AAAGTCTCTT AGTATACTCT AAAGTCTTAG AGTTATGATT TCGCACTCCT        1260

GCATATATAA ATATTTTATT CATTTTAATT CATCCTCTCA ATTTGAATTT AGTAGATTTT        1320

TCAAGATAGT ATGGTACAAA AACAGACTTT TGTTGACTCA CATTATTACA TATGTTTTGT        1380

ATTAAACCAA AATCAATACT ATTTTTGGAG TAATTTTGAT TTTAGTTTAA AATCATTTCT        1440

ATAACAGTAG CATATACCTC AAGCCGTTTA GCAATTAGAA TAGAACTTTT CTTTATTATA        1500

TTATTATCTC AACGAAAAGC TACACTATTA AAAATATTTT ATAGAATTAC ATATTAAACT        1560

AGTCAATCTT GGTATTTTTA TATTGCTTAA TGAGTGGACA CCTCTATTTT AGAAACAAAA        1620

CTATAAATTA AGCTAGATTT CAAGTAATGA GGGGATAACT ATCTTTTTGT CATTCTGATT        1680

CAGTGCGATA TACCTTAAAA AAGTATAAGC AATACCAGTC ACACCTGTAT ACAAAGAAAA        1740

ATCTGGGAAA TTGCTTGTTT GGACGATACG ATACTCTCCT TCTTTTGATT TATTCATTAC        1800

AACACTACAC AATAAAGACT CCAATTCCAT ACTAGTATCC ATTTCTTTCA TGTAGTCGAT        1860

GTAAAAATTT ATTATGGCCA TACTTCCATG GCAAAATGTA TCATTATCTA AACTAGCTAC        1920

AATTCCCTCT GGAACACTTT GGGGATGATT AACTAATGTC CCAAATTCTC CACTACACCA        1980

CTTCAAAGAA TGAATTTTGA TTTTCTCCCT AGGAACTAGT TGTAAAATTA ATTCTTTATA        2040

TTTTTTAAGT CTTGTCACTT TATAAATATT TTTTAATGTA AAAATTACAC CTGATAGTCC        2100

ATGGCCAAAA CTATATCCAA AATTACTATT ATCTCTCTCG CTTACATCAT TATATAGCGT        2160

ATCACCTAAA CTTAATACTA GCCTTAGAAC ACGTTCCTTC TCTATTCCTC TCCTATAATA        2220

TCTTACCAGT GTATTAATTA AAGGTAGAAG ACCATTAATA TAGTCAGACT TGTTTGAAAC        2280

ACTTGCAAAA TCAGTCTTTT CAAGCTCAGT TAAAACACTC TTTATATAAT TTAAGCATGC        2340

GAGAGTATTT GTATCGTAAT CCTCTATAAT GGATAGAACA ATGAAATATC CTATATCCCC        2400

AGTTAAACCA AATGTGGTCT TAGATAAAGA AACAGATGGC GGAATTGCAG ATAACATTTT        2460

ATTGTACAGT TGAGTATATG ATGATTTATC TTTCAATAAT TTTACATAGT ACATAAACAG        2520

TAATATTCCA GCTCTACCCC TATACATATC ATTmCCCGTT TGTTCAAGAC ACCATTTAGA        2580

ACCTTTAAAA TTAACAGGTA TACTCCAAAT TGGATATTCG TCATAAAATAT TATTAATAAC        2640

CAAAGAGTCT GCAATATTTT CTACTTCATT ATGCAGAATA GTAACTAAAC TTTCATTTGG        2700

GAGTTTTTTT CTATTAGATA AGTTTAATTT ATATCCTTTT TTTCGCTGAT CAAAGCTTGG        2760

AAAATAAATT TCAATGATAT CAAGTTGCTT TTCTAAATTT TCCAAATTAT TATTAGGTAA        2820
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1193

ATATTTCATA AAATAGTCAT ATCCAGAAAA TTGATGTAGG GAAATAAAAT GATTTCCAAA   2880

ATCATCGTAG ATTTCATTGA TATTTGTATC TGTATAAAAA ATCGGAATAT CTAATAACCT   2940

CATTTGTTCA CATTCGCTTG CTACAATACC TTGATTAGAA AACTTATTGC TCCAGAGATT   3000

TTCCAATGCT TTTTCTCTAT CTAACATTTC TTCATAAAAA TCAGGATGAT ATAAAAAAGA   3060

TAGTACTGAA GCATAGCTAT TTGTGTCTCT AAAAAGTACC CTTGTCTTTA AACCATACAA   3120

GTTTGCTTTT AATAGCATTT TAAATTCTTC TGTTTTATTT AACTCTTCAA ATATCAGATA   3180

AAAATCCCTA AAACCTTTTT TGAAATCTTT TATATACTTA TCAAATTCTA TATCACCATC   3240

CCGAACAGGC AGGTTTTTCC CACCTTCAAA ATCAATTTTC CCAATATCAA ACTTTACCTT   3300

ATCAGTATTT AAATTAATTA AAACTTGACC AGGGATCCTC TA   3342

(2) INFORMATION FOR SEQ ID NO: 207:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3454 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 207:

GAGAAAAGAA TGTTAAAGAA AAATGATATT GTAGAAGTTG AAATTGTTGA TTTGACCCAT   60

GAAGGGGCAG GAGTTGCCAA GGTAGATGGT TTGGTCTTTT TTGTAGAGAA TGCTTTACCG   120

AGTGAAAAAA TTCTCATGCG TGTCCTCAAG GTCAATAAAA AGATTGGCTT TGGAAAAGTT   180

GAAAAATACC TTGTCCAGTC ACCACACCGT AATCAAGATC TAGATTTGGC TTACCTGCGT   240

TCAGGAATCG CGGATTTAGG ACACCTTTCT TATCCAGAAC AGCTCAAGTT TAAAACCAAG   300

CAAGTCAAGG ACAGTCTCTA CAAGATTGCT GGAATTGCAG ATGTAGAAGT TGCTGAAACG   360

CTTGGTATGG AACATCCAGT CAAGTATCGC AATAAGGCGC AGGTGCCCGT TCGTCGAGTG   420

AATGGTGTCT TGGAAACAGG ATTTTTCCGT AAGAATTCGC ATAACCTCAT GCCCCTTGAA   480

GATTTCTTTA TCCAGGATCC TGTCATTGAC CAAGTCGTAG TAGCTCTTCG AGACCTGCTC   540

CGTCGTTTTG ATTTAAAACC TTATGACGAA AAGGAACAGT CTGGATTGAT TCGGAATCTT   600

GTGGTGCGTC GTGGTCACTA TTCAGGACAA ATCATGGTCG TTTTGGTGAC AACTCGTCCA   660

AAAGTTTTTC GTGTTGACCA ATTGATTGAA CAAGTTATCA AGCAGTTCCC AGAGATTGTG   720

TCTGTCATGC AAAATATCAA CGACCAGAAT ACCAATGCGA TTTTTGGTAA GGAGTGGCGC   780

ACTCTTTATG GTCAAGACTA TATTACGGAC CAGATGTTGG GAAATGACTT CCAAATCGCT   840

1194

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GGCCCAGCCT TTTACCAAGT CAATACTGAA ATGGCGGAGA AACTCTATCA AACAGCCATT        900

GACTTTGCAG AGTTAAAAAA AGATGATGTG ATTATTGATG CCTATTCTGG TATTGGAACC        960

ATTGGTTTAT CAGTCGCCAA GCATGTCAAA GAAGTCTACG GTGTTGAACT GATTCCAGAA       1020

GCAGTAGAGA ATAGCCAGAA GAATGCTTCT TTGAACAAGA TTACTAATGC CCACTATGTC       1080

TGTGACACGG CTGAAAATGC CATGAAGAAA TGGCTCAAGG AAGGTATTCA ACCAACCGTT       1140

ATCTTGGTTG ATCCTCCACG CAAGGGCTTG ACAGAAAGCT TTATCAAAGC AAGCGCCCAA       1200

ACAGGAGCCG ATCGCATCGC CTATATCTCC TGCAATGTCG CAACCATGGC GCGTGATATT       1260

AAACTATACC AAGAGTTGGG ATATGAATTG AAGAAAGTCC AGCCGGTGGA TCTATTTCCT       1320

CAAACGCATC ACGTCGAGAC GGTAGCACTT TTGTCCCAAC TCGATGTCGA TAAGCACATA       1380

AGTGTTGAAA TTGAGCTGGA TGAGATGGAT TTGACAAGTG CGGAGAGCAA AGCAACATAT       1440

GCTCAAATCA AAGAATATGT TTGGAATAAA TTTGAATTAA AAGTTTCGAC ATTATATATT       1500

GCACAGATAA AAAAGAAATG TGGAATAGAA TTACGAGAAC ATTACAACAA GTCTAAAAAG       1560

GATAAACAAA TTATTCCACA GTGTACACCT GAAAAAGAAG AAGCCATCAT GGATGCTTTG       1620

AGACACTTCA AAATGATTTA ATAGAAAAGA ATGACAGTAT ATGACTTTCT GCATTTATTA       1680

CATTCCTACT TGGTATAGGA ACAGCTATTA TTCCTTTCTT GCAAGGTATC AATTAGAAAA       1740

TAGGCTCAAT ATAAAGATTG ATAGGATCAT TTTTATATTT AAAGGAGCGT TGAAATGATT       1800

GATAAAGGCA ACAAAAAATT TTAGGATAAA TTTGCTAAGT TGTATGCCTC TTTTATGAAA       1860

AAAGATAAAG AGGTTTATGA TAAAGTTTGT GAATATCTTA GTCCTCATTT GAATAAAGAT       1920

ATGGAGGTGC TTGAACTTGC TTGTTGGTTT CGTGTCATAA CAGTTATAGA GGCAAATAGT       1980

TATGTAAATA TAAGGAGTTC AAGACTTCTA CCAAAGTTTA AAACTCAAAA AATAAATAGT       2040

TGGTGTGCTG CTTACAATAT CCATTTTAAT AATGGATATT GTAAGCAGCA CCCCcAtGAA       2100

TTTAAAGATT CTTTAAAGAG TCTTATTTTG TGATGAAAAT TTAATATGTA AATCTCAGAC       2160

GATAGAAATT AAAAACTCTA TCGTCTTTTT TATACTCAAA ATTAGGAGGT AAAAATGGTA       2220

AGGATAAGAG GTCCCACTTA AAACAATTTA TGGCAAAATA AGGACGGAAT AACACAACAA       2280

ATTCTCTAAA ACAAATCACT AAATCAATGT AAGATTGAAT GAAATCAATA TTTATGCTAT       2340

AATTAAATAA ATTTAATGAA GAAAAAAAGA GGGATATTAT GGCACTTAAC TATAAACCAT       2400

TATGGATACA GTTAGCAAAA AAAGGACTAA AGAAAACAGA TGTAATAGCT ATGGCAGGAC       2460

TTACAACAAA TGTTATGGCA CAAATGGGAA AGGATAAACC AATTACATTT AAGAATTTAG       2520

AAAGAATATG TAAGGCTTTA TCTTGCACTC CTAATGATAT TATTAGTTTT GAAGATAATT       2580

TTAGTGACGA GGAATAGAAA ATGACTTTAA GGACAGAAGA TCAAGTTAGG GATTATGCAA       2640
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1195

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GAGAAGTATA GGCTTTAATG AAGTTGAAGA AAACATCAAT CAAGGTACTG GTCAAATAAC      2700

TACTTTTAAT CAATTAGGCT TCAAGGGATA TTCAAATAAG CCAGATGGTT GGTATTTACC      2760

TAAAAATATG AATGATGTAG CAATAATCCT TGAAACAAAA TCAGAAGAAA GAGATATTAG      2820

CAAACAAATT TTTATTGATG AGTTAATGAA AAATATAGAC ATAATTTAAC TAAAAATAAA      2880

AACTAGATCC TTTTTTGAAA AAATTATATT ATTAAATTTG TAACTGTATC TATTGACAAT      2940

GATAATTATT ATCGATACAA TAGACTTGAA ATATGTTTAA GGAGTTTTTA TGAAAaCAAA      3000

TTTTTTCTAA TmGCTATTTT AGCTATGTGT ATAGTTTTTA GCGCTTGTTC TTCTAATTCT      3060

GTTAAAAATG AAGAAAATAC TTCTAAAGAG CATGCGCCTG ATAAAATAGT TTTAGATCAT      3120

GCTTTCGGTC AAACTATATT AGATAAAAAA CCTGAAAGAG TTGCAACTAT TGCTTGGGGA      3180

AATCATGATG TAGCATTAGC TTTAGGAATA GTTCCTGTTG GATTTTCAAA AGCAAATTAC      3240

GGTGTAAGTG CTGATAAAGG AGTTTTACCA TGGACAGAAG AAAAAAATCAA AGAACTAAAT      3300

GGTAAAGCTA ACCTATTTGA CGATTTGGAT GGACTTAACT TTGAAGCAAT ATCAAATTCT      3360

AAACCAGATG TTATCTTAGC AGGTTATTCT GGTATAACTA AAGAAGATTA TGACACTCTA      3420

TCAAAAATTG CTCCTGTAGC AGCATACAAA TCTG                                  3454
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(2) INFORMATION FOR SEQ ID NO: 208:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3752 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 208:

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CGGGAGTATA CTTAATATAA TTATAGTCTA AAAATGACTA TCAGAAAAGA GGTAAATTTA       60

GATGAATAAG AAAAAAATGA TTTTAACAAG TCTAGCCAGC GTCGCTATCT TAGGGGCTGG      120

TTTTGTTACG TCTCAGCCTA CTTTTGTAAG AGCAGAAGAA TCTCCACAAG TTGTCGAAAA      180

ATCTTCATTA GAGAAGAAAT ATGAGGAAGC AAAAGCAAAA GCTGATACTG CCAAGAAAGA      240

TTACGAAACG GCTAAAAAGA AAGCAGAAGA CGCTCAGAAA AAGTATGAAG ATGATCAGAA      300

GAGAACTGAG GAGAAAGCTC GAAAAGAAGC AGAAGCATCT CAAAAATTGA ATGATGTGGC      360

GCTTGTTGTT CAAAATGCAT ATAAAGAGTA CCGAGAAGTT CAAAATCAAC GTAGTAAATA      420

TAAATCTGAC GCTGAATATC AGAAAAAATT AACAGAGGTC GACTCTAAAA TAGAGAAGGC      480

TAGGAAAGAG CAACAGGACT TGCAAAATAA ATTTAATGAA GTAAGAGCAG TTGTAGTTCC      540
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1196

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TGAACCAAAT GCGTTGGCTG AGACTAAGAA AAAAGCAGAA GAAGCTAAAG CAGAAGAAAA        600

AGTAGCTAAG AGAAAATATG ATTATGCAAC TCTAAAGGTA GCACTAGCGA AGAAAGAAGT        660

AGAGGCTAAG GAACTTGAAA TTGAAAAACT TCAATATGAA ATTTCTACTT TGGAACAAGA        720

AGTTGCTACT GCTCAACATC AAGTAGATAA TTTGAAAAAA CTTCTTGCTG GTGCGGATCC        780

TGATGATGGC ACAGAAGTTA TAGAAGCTAA ATTAAAAAAA GGAGAAGCTG AGCTAAACGC        840

TAAACAAGCT GAGTTAGCAA AAAAACAAAC AGAACTTGAA AAACTTCTTG ACAGCCTTGA        900

TCCTGAAGGT AAGACTCAGG ATGAATTAGA TAAAGAAGCA GAAGAAGCTG AGTTGGATAA        960

AAAAGCTGAT GAACTTCAAA ATAAAGTTGC TGATTTAGAA AAAGAAATTA GTAACCTTGA       1020

AATATTACTT GGAGGGGCTG ATCCTGAAGA TGATACTGCT GCTCTTCAAA ATAAATTAGC       1080

TGCTAAAAAA GCTGAGTTAG CAAAAAAACA AACAGAACTT GAAAAACTTC TTGACAGCCT       1140

TGATCCTGAA GGTAAGACTC AGGATGAATT AGATAAAGAA GCAGAAGAAG CTGAGTTGGA       1200

TAAAAAAGCT GATGAACTTC AAAATAAAGT TGCTGATTTA GAAAAAGAAA TTAGTAACCT       1260

TGAAATATTA CTTGGAGGGG CTGATTCTGA AGATGATACT GCTGCTCTTC AAAATAAATT       1320

AGCTACTAAA AAAGCTGAAT TGGAAAAAAC TCAAAAAGAA TTAGATGCAG CTCTTAATGA       1380

GTTAGGCCCT GATGGAGATG AAGAAGAAAC TCCAGCGCCG GCTCCTCAAC CAGAGCAACC       1440

AGCTCCTGCA CCAAAACCAG AGCAACCAGC TCCAGCTCCA AAACCAGAGC AACCAGCTCC       1500

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AAAACCAGAG CAACCAGCTA AGCCGGAGAA ACCAGCTGAA GAGCCTACTC AACCAGAAAA       1620

ACCAGCCACT CCAAAAACAG GCTGGAAACA AGAAAACGGT ATGTGGTATT TCTACAATAC       1680

TGATGGTTCA ATGGCAATAG GTTGGCTCCA AAACAACGGT TCATGGTACT ACCTAAACGC       1740

TAACGGCGCT ATGGCAACAG GTTGGGTGAA AGATGGAGAT ACCTGGTACT ATCTTGAAGC       1800

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CAGCAATGGC GCTATGGCGA CAGGCTGGCT CCAATACAAT GGCTCATGGT ACTACCTCAA       1920

CGCTAATGGT GATATGGCGA CAGGATGGCT CCAATACAAC GGTTCATGGT ATTACCTCAA       1980

CGCTAATGGT GATATGGCGA CAGGATGGGC TAAAGTCAAC GGTTCATGGT ACTACCTAAA       2040

CGCTAACGGT GCTATGGCTA CAGGTTGGGC TAAAGTCAAC GGTTCATGGT ACTACCTAAA       2100

CGCTAACGGT TCAATGGCAA CAGGTTGGGT GAAAGATGGA GATACCTGGT ACTATCTTGA       2160

AGCATCAGGT GCTATGAAAG CAAGCCAATG GTTCAAAGTA TCAGATAAAT GGTACTATGT       2220

CAATGGCTTA GGTGCCCTTG CAGTCAACAC AACTGTAGAT GGCTATAAAG TCAATGCCAA       2280

TGGTGAATGG GTTTAAGCCG ATTAAATTAA ATCATGTTAA GAACATTTGA CATTTTAATT       2340
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1197

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TTGAAACAAA GATAAGGTTC GATTGAATAG ATTTATGTTC GTATTCTTTA GGTACCTATC    2400

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TTAGAGAAAA TGGGTTGTTT TATCTATTAT AGTTATTTGA ATGAAGmTAA GAAGAAGGTA    2520

TACTCACATC ATTCACATAA TCTGTATATT GACTATAAGT TTTAAAAAAC AATTTTTAAG    2580

CTCTTCCTTG TCTTCTCTAA CCAAGCGTGT TATAATGAAT ACTGCTCAAG CGACCTTCAA    2640

TCGTGAAGCA CACACGACCT TCAATCGTGA ATAAACGAAT AGATGGGAGA CTTACCATGA    2700

GTGATAACTC TAAAACACGT GTTGTCGTGG GGATGAGTGG TGGTGTTGAT TCGTCGGTGA    2760

CGGCTCTTTT GCTCAAGGAG CAGGGCTACG ATGTGATCGG TATCTTCATG AAGAACTGGG    2820

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TGGCAGACCA GATTGGCATT CCCTACTACT CTGTCAATTT TGAAAAAGAG TACTGGGACC    2940

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TGTGCAACAA GGAAATCAAG TTCAAGGCCT TTTTGGACTA TGCCATAACC TTGGGGGCAG    3060

ACTATGTAGC GACTGGGCAT TATGCTCGAG TGGCGCGTGA TGAGGATGGT ACCGTTCACA    3120

TGCTTCGTGG CGTGGACAAT GGCAAGGATC AGACCTATTT CCTCAGCCAA CTTTCGCAAG    3180

AACAACTTCA AAAAACCATG TTCCCACTAG GACATTTGGA AAAGCCTGAA GTACGCAGAC    3240

TAGCAGAAGA AGCAGGCCTT TCGACTGCTA AGAAGAAAGA CTCGACAGGG ATTTGCTTTA    3300

TCGGAGAAAA GAACTTTAAA AACTTTCTCA GCAACTACCT GCCAGCTCAG CCTGGTCGCA    3360

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GTCAGCGTGG CGGACTCGGT ATCGGTGGGC AACACGGCGG TGACAATGCC CCTTGGTTCG    3480

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CGCTCATGTC AACTAGCCTA GAAGCCAGTC AAGTCCACTT TACTCGTGAA ATGCCAGAAG    3600

AGTTTACGCT AGAATGTACG GCTAAATTCC GTTACCGTCA GCCTGACTCT AAGGTGACCG    3660

TTCATGTCAA AGGAGAAAAG ACAGAGGTCA TCTTTGCGGA ACCACAACGC GCGATTACAC    3720

CAGGACAGGC AGTTGTCTTT TACGATGGCG GG                                   3752
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(2) INFORMATION FOR SEQ ID NO: 209:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3580 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1198

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 209:

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TATTTATATT TTTTTATCTC TGGCATACTT TGATACCTTT TTAGACTTAA AGTCTTTAAT         60

AGTGCCTTTC CACCTCTTTT TATCTATAAA GATTCTCCTA CATCATAATT CATTTTTTTA        120

TTTAAACCTT TCTGTCTTAG TTTGTCTTTA TCTTCTTCAT ACCATTTTAA GATTGTCACA        180

TAGTGGTTTT GATAGGTCTT ACCACTGCTT TCCATGTATC TGGATAGTTT ATTTATCATT        240

ATATCTGTGT GTGAGTTTAA TTTTTCTTTT AGATTTTTAT ATTCTTCTTT GCTTAACCTT        300

ACATTTTTGA ATTCTCCATA AAAAATGGGG GTGGACTTTT TATCTATCTC TCCCTCTCTC        360

TCTTTATCTA TCTCTATATC TTTCCATGTA ATTCCAATCT GGAGTACCTC TACTGTCTAT        420

CGGTAATTTA ATTTTGATAT CTGGCAATAC TGTGCTAGAT ATTTGATCTT TATATTCAGT        480

ATTTTTTAAA GCTTGCCTAA TAATTGAAGT TAAATAGAAT GCTACTTCTT TATTCAATTC        540

TTTATTTTTT AATTTTAAAC AATGAATTTT CATATCTAGG CTTGCTTTAT ATTTATGATA        600

AAAGACTGCT CCTAAAAATG AAACAGATAT AAAATTTTCA AAAACTCTAT AATTTTTATC        660

ATCTATATCT TCGTAGTAAC CTAAGATACC ATTGTCAATA TTTGTAGCAC TAATTCTAGG        720

AGTTTTTCCA TCGAGTAAAT ATCTTTTTGG AATAGATGAG CCTGTTGGTA CTTAACTCGA        780

TTTCCCCTTT TTTTCGGTAA TAAATATTTC TTTTTATTTT GTTGTCTGAT ATTTTTCCTA        840

CCTGTCCTTT GTAGGATGAG TATTTTCTAG ATTTTCyTGA ATAACTTTTT ACTTGAAGTT        900

TTAGCTTTTG AACTAGTCGT TGTACTTTCT TTTTGTTTAT TATCAGTCCT GATCTTTTTA        960

ATATTGCTGT TATTCTCTAT ATCCTATTTT TCATTCATGA TATTCTTTTA CTAATTTTAT       1020

CTTAAATTCT GTGCTGTATT TGCCATTAAA AAACTGACCT CCTTTAGTTA GTTTTTTGGC       1080

CTAACTTTTG AGGGTCAGTT CAAAATTTGC GACTTTTAAA TGAATTCCAA TATTCAATTA       1140

TTAAGAGTTA ACATGGTGCT TGCCAATAGG AATCATTAGA GGCGAATTGG AAATAGGGTC       1200

ACGTATAATT TTTGCTTCAA GATTAAAGAT ATCTTTAACT AGTTTATCAT TTAGTATATC       1260

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AACCATTGAT CTGTTTATTA TTTCAAGGTC ATCTTTTCCA AGACTCTTAA AAGGCTTTCT       1620

GTAGGGGAAA CGACCACGGC TTACAAGATC AGCTACTGTT ATTGATTCAG GGATTATTGG       1680

AGATTGAGGT AATATAGCTA TGTGTTTTGC TAAATCTTTT TCTTTATAAG AATTAATTGA       1740
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1199

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TTTATTATCA AGCAATACTT CTCCCTCTAA TGGCTTTATA AGTCGAGACA AGGTTTTAAT      1800

GAGTGTTGAT TTCCCACAAC CATTTGACCC AATAATAACT GATATTTTTT CTTCAGGTAT      1860

TTTTATATTT ATATTTTCCA AGATTATTTT TTCATCATAA CCGCAGGTAA GATTATTTGA      1920

CCACAGACCT TTCATTATAT ATTCCTCCTG TTCATTTTTA TTAGTAAGTA TATTAAGTAT      1980

GGTGAACCTA ACAAGCCAGT TACAACACCT ACTGGATATC TAGCTGGTAA AATATTTTGA      2040

GAGAATATGT CTGATAACAA AACTAGTAAA ATTCCAACCA ATCCAGCTAA TATTGGGCTT      2100

CTTTTCTTGC CAATATTTAA GGCTATGGGA CCAGCTAAAA AAGATATACA AGCTATTGGT      2160

CCTGTAATTG AAGTAGAAAA AGCAGTTAAA GATACAGCGC AAAAAATTAA AACAAGCCTT      2220

GAAAGCTCGG GATTTGCTCC AAGTCCGATT GCTATTTCTT CACCAAGTTC AATAATTTCT      2280

AGTCTTTTAT TAAAAAATAA AACTAATATA GTAGCAATAA TACTTACTAT TAGAACAAGA      2340

GGTATGTCAT CTAACTTTGT AAAAGATAAA GAGCCACTGA GCCATCTCAT AACTTCTTGT      2400

AATTCATATC TTGCTACTTT CAACAATAAA AATGAGGTGC CTGCTCTTGT GACAGCTTGA      2460

AAACCAATAC CTAATATTAT CAGTCTTGCT GCTGAAAAAC CATCTTTTTT AGCTAGTAAA      2520

AATAATATTA AAGATGATGT TAGTCCACAA GTTATTGAAA TAATTCCAGT AGTTAAACTA      2580

TTTGTTTTTA ATACCAATAT GCAAAAGACC GCTGCAATAG ATGAAGAACT TGTGACACCG      2640

ATTATATCAG GACTTGCAAG AGGATTTCTT AACATAGTTT GAAAGATAAA TCCTGCCAAT      2700

CCAAAAGACC AGCCAGCTAT AATTCCTGCT AATAATTTTG GTAATCTAAT TTCCATAATC      2760

GAAAAACTAG CTCCAGGAAC AGTTTCACTA TTTAAGACTT TAATCAAAGT TGAAAAAGAA      2820

TAACTTTCAT CTCCGATAAG TAAAATGAAA AATGATAGAC TGATTATTAT TAATAAAAAT      2880

AGTGAGGAAA ATAGTGTTAT TCTATTTTTT CTTTTTTGAA TACCTATAAT TAAATTTTGC      2940

ATTAGTTATT AACCCCTCTA TTTTTCATAG TTACATAAAT AAGTACTGGA CCCCCGATTA      3000

TTGCAGTAAT TATCCCTACT TCAATTTCAC CTGGTTTACC TAACATACGG CCGATTATAT      3060

CACATATAAG CAAGAGCTCT GCACCTATAA AAGATGAAGA AATGGTCATT GTGCGTATAT      3120

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CACCAATTGC AGTAATACTT GAACATAAAA GCACACTTGC AATTATTGCA AGTGATCTTA      3240

TCCTATTAAC ATTAACTCCA AGACCAACAG CCATTTCATC ACCCATAGcT AAAGCGTTTA      3300

AATCTGATGA AATAAATATA GCTATCAAGT GACCTAAAAT TATAAAAGGT AGTAGTGTAG      3360

ATATAGAAGA TAATGTAGCT GCTCCAAGGC TACCTATTTG CCAAAATCTA AATTTGTCTA      3420

AGACGTTATT ATTCGGTAAA ATTAAAAAAC TTACAAAACT GCTTAAAGCC ATACTAACAC      3480
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                                    1200
AAGTTCCTGA TAAGGCAAGT TTTATAGGGG TAAGGCCTGC TTTTCCGTTA CAGCAATCGC     3540

GTATACAAAA ATTGCACTTA CTAAGCCACC AATGATTGCG                          3580
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(2) INFORMATION FOR SEQ ID NO: 210:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 11378 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 210:

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CCAAATTGCT CCACAATTAT TATGGAGTCG TCGTTTGGCA GATGGGCGTG ATATGTGTGC      60

TCAAGAATGG TTGACAGGCA AGATATTGAC CCCCTATGAT ATGAATCGTA AGCAAATCGT     120

CAATATTTTA ACCCGTCTTC ATCGCTCACG TCCGTTGATG ACACAATTGA GTCGTTTGGG     180

CTATGCCATG GAAACACCTG TAGATTTACT ACAGTCTTGG CAGGAAACGG CTCCAGATGC     240

TTTGCGTAAA AATCATTTTA TCAGTGAAGT GATGGCTGAT TTACGTCAGA CTATTCCAGG     300

ATTTAGAGAG GACCATGCGA CCATTGTCCA TGGAGATGTA CGACATAGTA ATTGGATTGA     360

GACAGATAGT GGCTTGATTT ATTTAGTAGA TTGGGATTCG GTTCGCTTGA CCGATCGCAT     420

GTTTGATGTG GCCCATATGC TCTGCCATTA TATTTCAGAA CATCAGTGGA AGGAATGGTT     480

GACCTACTAC GGTTACAAGT ACAATCAAAC GGTATTAAGT AAATTGTATT GGTATGGTCA     540

ATTGTCTTAT TTGAGTCAGA TTTCCAAGTA TTATATGAAC CAAGATTTAG AAAATGTCAA     600

TCGGGAGATT CATGGTTTGC GTCATTTCCG AGACAAGTAT GGAAAGAGAA GATGAGAGTT     660

AGAAATCGTA AAGGGGCAAC AGAATTACTA GAGGCAAATC CCCAGTATGT GGTCCTCAAT     720

CCCTTGGAAG CCAAGGCAAA ATGGCGGGAC TTGTTTGGCA ATGATAATCC CATTCATGTG     780

GAAGTTGGAA GTGGAAAGGG TGCCTTTGTT TCAGGTATGG CCAAGCAAAA CCCTGACATC     840

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TTTGAAGACG GTGAGATTGA TCGCTTGTAT CTGAACTTTT CAGATCCATG GCCGAAAAAA    1020

CGCCATGAAA AGCGTCGTTT GACCTACAAG ACCTTCTTGG ATACCTTCAA ACGTATCTTG    1080

CCTGAAAATG GAGAAATTCA TTTCAAGACG GATAACCGTG GCTTGTTTGA GTACAGTTTA    1140

GTGAGCTTTT CTCAATATGG CATGAAACTC AATGGTGTCT GGTTAGATTT GCATGCCAGT    1200

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ATCTACCGAG TTGAGGCAGA ATTTTAAGAG ATAACCTAAA ATTAGGCTGT ACAAGTGCTT    1320
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1201

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GGGAAATATC TTCGCCTCTT GCTTATGAGG AGGTGGACGC AATCGCAACA ATCGTAGAAT        1440

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GACTATGGAA TATATGGACA AGACGCGTAA GAAAACCGTC CAAATTCCAT ACAGTTTAGT        1860

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AGGGAATCAA AAAAGAAGAT ATCATCGACG CAGTAGTAGA GTCGCTTCGT TCCGCTTATC        2040

GCAGACGCTA TGGTCAGTCA GACAGCGTAG CTATTGACTT CAACGAAAAA ACAGGTGACT        2100

TTACAGTTTA TACTGTCCGT GAAGTTGTTG ATGAAGTATT TGATAGCCGT TTGGAAATCA        2160

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AAAAAATGCG CAAgCAAACA CGTGCCATCA CTTACAATAC TTACAAAGAA CATGAGCAAG        2340

AAATCATGTC TGGTACAGTA GAACGCTTTG ACAACCGCTT TATCTATGTC AACCTTGGTA        2400

GCATCGAAGC CCAATTGTCA AAACAAGACC AAATTCCTGG AGAAGTTTTT GCTTCTCATG        2460

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ATGATGGAAC TGTTGAAATC ATGAGCGTGG CTCGTGAAGC AGGTGACCGT ACGAAGGTTG        2640

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GCGAATTTGA AGCCATGGAA GACGCTGCTT CAGTAGAGTT GGAAGTAGAA AACGATACTG        3060
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AGTCTGTTGT GTCTAACGAA GTGATTGATA AGCGTGATTT GCTCCGCATT GTCAAGAACA      3180

AGGAAGGACA AGTCTTTATT GATCCTACGG GCAAGGCCAA TGGCCGCGGC GCTTATATCA      3240

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AGAAAAGAAA GCCGAAAAAT CTGAGCCAGC TAAACCAGCT GTAGCTAAGG AAGAGGCAAA      3960

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AGCTGTAGCC AAGGAAGAGG CAAAACCAGC TGAGCCAGTC ACTCCGAAAA CAGAAAAAGT      4080

AGCGGCTAAA CCGCAAAGTC GTAATTTCAA GGCTGAGCGT GAAGCACGTG CTAAAGAGCA      4140

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CTTTAATGAC CAAGCTAAGA AGCAGCAAGG TCAGCAAAAA CGTAGAAATG AGCGCCGTCA      4320

GCAAGAGGAT AAACGTTCAA ATCAAGCGGC TCCACGTATT GACTTTAAAG CCCGTGCAGC      4380

AGCCCTAAAA GCAGAGCAAA ATGCAGAGTA CGCTCGTTCA AGTGAGGAAC GCTTCAAGCA      4440

GTATCAGGCT GCTAAAGAAG CCTTGGCTCA AGCTAACAAA CGCAAGGAAC CAGAGGAAAT      4500

CTTTGAAGAA GCGGCTAAGT TAGCTGAACA AGCACAGCAA GTTCAAGCAG TGGTTGAAGT      4560

CGTCCCTGAG AAAAAAGAAC CTGCAGTGGA TACACGTCGT AAAAAACAAG CTCGACCAGA      4620

CAAAAATCGT GACGATTATG ATCATGAAGA AGATGGTCCT AGAAAACAAC AAAAGAATCG      4680

AAGTAGTCAA AATCAAGTGA GAAATCAAAA GAATAGTAAC TGGAATAACA ACAAAAAGAA      4740

CAAAAAGGC AATAACAAGA ACAACCGTAA TCAGACTCCA AAACCTGTTA CGGAGCGTAA       4800

ATTCCATGAA TTGCCAACAG AATTTGAATA TACAGATGGT ATGACCGTTG CGGAAATCGC      4860
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1203

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AAAACGTATC AAACGTGAAC CAGCTGAAAT TGTTAAGAAA CTTTTCATGA TGGGTGTCAT      4920

GGCCACACAA AACCAATCCT TGGATGGGGA AACAATTGAA CTCCTCATGG TGGATTACGG      4980

TATCGAAGCC AAACAAAAGG TTGAAGTGGA TAATGCTGAC ATCGAACGTT TCTTTGTCGA      5040

AGATGGTTAT CTCAATGAAG ATGAATTGGT TGAGCGTCCA CCAGTTGTTA CTATCATGGG      5100

ACACGTTGAC CACGGTAAAA CAACCCTTTT GGATACTCTT CGTAACTCAC GTGTTGCGAC      5160

AGGTGAAGCA GGTGGTATTA CTCAGCATAT CGGTGCCTAC CAAATCGTGG AAAATGGTAA      5220

GAAGATTACC TTCCTTGATA CACCAGGACA CGCGGCCTTT ACATCAATGC GTGCGCGTGG      5280

TGCTTCTGTT ACCGATATTA CGATCTTGGT CGTAGCGGCA GATGACGGGG TTATGCCTCA      5340

GACTATTGAA GCCATCAACC ACTCAAAAGC AGCTAACGTT CCAATCATCG TAGCTATTAA      5400

CAAGATTGAT AAACCAGGTG CTAACCCAGA ACGCGTTATC GGTGAATTGG CAGAGCATGG      5460

TGTGATGTCA ACTGCTTGGG GTGGAGATTC TGAATTTGTT GAAATTTCGG CTAAATTCAA      5520

CCAAAATATC GAAGAATTGT TGGAAACAGT CCTTCTTGTG GCTGAAATCC AAGAACTCAA      5580

AGCAGACCCA ACAGTTCGTG CGATCGGTAC GGTTATCGAA GCGCGCTTGG ATAAAGGAAA      5640

AGGTGCGGTC GCAACCCTTC TTGTACAACA AGGTACCTTG AATGTTCAAG ACCCAATCGT      5700

TGTCGGAAAT ACcTTCGGTC GTGTCCGTGC TATGACCAAC GACCTTGGTC GTCGTGTTAA      5760

AGTTGCTGGA CCATCAACAC CAGTCTCTAT CACAGGTTTG AACGAAGCAC CGATGGCGGG      5820

TGACCACTTT GCCGTTTACG AGGATGAAAA ATCTGCGCGT GCAGCAGGTG AAGAGCGTGC      5880

CAAACGTGCC CTCATGAAAC AACGTCAAGC TACCCAACGT GTTAGCCTTG AAAACCTCTT      5940

TGATACCCTT AAAGCTGGGG AACTCAAATC TGTTAATGTT ATCATCAAGG CTGATGTACA      6000

AGGTTCTGTT GAAGCCCTTT CTGCCTCACT TCAAAAGATT GACGTGGAAG GTGTCAAAGT      6060

GACTATCGTC CACTCAGCGG TCGGTGCTAT CAACGAATCA GACGTGACCC TTGCCGAAGC      6120

TTCAAATGCC TTTATCGTTG GTTTCAACGT ACGCCCTACA CCACAAGCTC GTCAACAAGC      6180

AGAAGCTGAC GATGTGGAAA TCCGTCTTCA CAGCATTATC TACAAGGTTA TCGAAGAGAT      6240

GGAAGAAGCT ATGAAAGGGA TGCTTGATCC AGAATTTGAA GAAAAAGTTA TTGGTGAAGC      6300

GGTTATCCGT GAAACCTTCA AGGTGTCTAA AGTGGGAACT ATCGGTGGAT TTATGGTTAT      6360

CAACGGTAAG GTTGCCCGTG ACTCTAAAGT CCGTGTTATC CGTGATGGTG TCGTTATCTA      6420

TGATGGTGAA CTCGCAAGCT TGAAACACTA TAAAGACGAC GTGAAAGAAG TGACAAACGG      6480

TCGTGAAGGT GGATTGATGA TCGACGGCTA CAATGATATT AAGATGGATG ATGTGATTGA      6540

GGCGTATGTC ATGGAAGAAA TCAAGAGATA AGATTTTTTG CTCCTTTCTT AGGTGGTGAG      6600
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1204

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GGACGCAAGC AAACCGATGG TTTCATTGCT TATTTTTGAG CCTAGGGTCT CAAAAATCCC    6660

CTGTGATGGG ACTGATAAAT CAGTTCCATC ACTTTCACCA CGGCGAAAGA AGCAGATGAC    6720

TTCAAATTGA ACTTCGTTTC AATTTAAACT GAAAATCAAG AAGTTTAAAA TAGCTAGGTC    6780

TGCTGGCCTA GCTTTTGGTT CAAAGTAGAG AAAGGAATAT CATGGCAAAT CATTTCCGTA    6840

CAGATCGTGT GGGCATGGAA ATCAAGCGTG AAGTCAATGA GATTTTGCAA AAGAAAGTCC    6900

GTGATCCACG TGTCCAAGGT GTGACCATCA TAGATGTTCA GATGCTGGGT GACTTGTCTG    6960

TTGCCAAGGT TTATTACACC ATTTTGAGTA ACCTTGCTTC GGATAACCAA AAAGCCCAAA    7020

TCGGGCTTGA AAAAGCAACT GGTACCATCA AACGTGAACT TGGTCGCAAT TTGAAATTGT    7080

ACAAAATCCC AGATTTGACC TTCGTCAAAG ACGAGTCCAT CGAGTATGGA AACAAGATTG    7140

ACGAGATGCT ACGCAATCTG GATAAGAACT AAAGAAGAGG GGTTGCCCCT CTTTTTTGGT    7200

GGAGGAAAAT AGGTTGAATT TGAAATGGAA AAATATTCTT TTATAATAGA TTGAAACTAG    7260

AATAGTACGC CTCTACTTCT AAAATATTGT TAGAAATCGA TTTGACTGTC CTGATCGATT    7320

TGTCCTGTTC TTGTTTCATT TTAATATAAA AAAGGGATTC TGTATTTTTT AATGTTATCT    7380

AATTAGAAAA TGCTTTTTTT GTAGGAAATA TAATATGATA AGGTGCAAAA AAGAAATAAG    7440

GAGTTTGTAT ATGGCTGAAC AAGACTTAGC TATGCAAGTA TTGCAACAAG TGGTGAAACT    7500

ACCTGTTGTT AAGGTTGATC GTTCGAAATT TTTAGTGGAT AAGTTTTCCA AAGAATTGGA    7560

TCCAAAAGAT ATTCCTACCT TATTGGAACA AGGTCCAACG ACTCTTCTAT CTCAAGAAAT    7620

ATTAGATCGT GTAGCTAATG CTTGTATTCG GGACAATGTA TTATTAGCGA GTGGGACTTC    7680

TGTTTTGGCA GGATTACCTG GAGGGCTTGC TATGGCAATT ACCATTCCAG CTGATGTGGC    7740

TCAATTTTAT GCTTTCTCTC TGAAATTGGC TCAAGAATTA GGTTATATTT ATGGTTATGA    7800

GGATCTTTGG GCTTCACGAG AGGAGTTGAG TGAAGATGCT CAAAATACCC TCTTGCTTTA    7860

TCTAGGCGTA ATGTTAGGGG TGAATGGAAC CGCTGCTTTG CTACGTGTTG GTAGTATAAC    7920

AATTGCCAAA CAGGTAATGA AAATAGTGCC TAATAAAGCT TTAACAAAGA CGCTTTGGTA    7980

CCCTATTTTG AAAAAAGTCT TAAAAATATT TGGTGTGAAT CTTACCAAGG GAGGGTTGGC    8040

CAAAGGAATG GGGAAATTTA TTCCTATCTT GGGTGGTATC ATTTCAGGTG GTTTAACCTT    8100

TGCAACTATG AAACCAATGG GGGAAAGCTT GCAGAAAGAA TTATCCAAGC TAGTCAACTA    8160

TAGTGAAGTT CAATATCAAG AAGATGTTGA AACAATCCGA AAAGAGGCTG AAATCATCAA    8220

AGGAGAGTAA TATGAATCCT ATCAAAGCTT TTGCTAAAAT TTATGGTAAT TACTTTTTGA    8280

CCGTGCAAGG TGTAAAAGTG ATGAAAACGA TAAAGAAAGC TGACCATGTC GTTGTTGGTC    8340

TGGGGAAACT TTTTATTGCC GACAAGTTAA TGGATACGGC TCGGTGGCTC ATTAAGCCAG    8400
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1205

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AGGAGAGAGA ATGAAATTTT TTTGGTCTTC TTGCTATTCT TTTTATCAAA CCGATTATTG    8460

GGATTGTGAA ATTCTTTTGG ATGATCATCT CTTTTGCAGT CCAATTGCTG TTTTACAAGA    8520

TAGTGTTTAA GATATTGGAT TGGCTCTTTA AACTTATCTA GATGGTAATC CAAGTTGCAG    8580

AGAACTAGCA GGAACTCCAC TGCTAGTTTT TTATTCTCTT TCCATATGGT ATAATATAAG    8640

CAGTAAAATC ATTTTATACT CTTCGAAAAT CTCTTCAAAC CACGTCAGCT TCACCTTGCA    8700

GTATATATGT TACTGACTTC GTCAGTTCTA TCCACAACCT CAAAACGGTG TTTTGAGCTG    8760

ACTTCGTCAG TTCTATCTAC AACCTCAAAA CACTGTTTTG AGCAACCTGC GGCTAGCTTC    8820

CTAGTTTGCT CTTTGATTTT CATTGAGTAT TAGAACATAC AATGGAGGTC GTCATGGACA    8880

ATATCATCGA TGTGTCAATT CCTGTTGCAG AAGTGGTGGA CAAGCATCCA GAAGTCTTGG    8940

AAATTCTAGT GGAGTTGGGT TTTAAACCCC TTGCCAATCC CTTAATGCGC AATACAGTTG    9000

GTCGTAAAGT ATCACTTAAA CAGGGTTCTA AGCTAGCAGG AACTCCTATG GACAAGATTG    9060

TACGCACACT GGAAGCGAAT GGCTACGAAG TGATTGGATT AGACTAATGA CAGATGAACG    9120

GATTCATATC CTACGGGATA TTTTGTTAGA ATTGCACAAT GGCGCCTCTC CTGAGTCGGT    9180

TCAAGATCGC TTTGATGCGA CCTTTACGGG CGTGTCAGCC ATCGAGATTT CCCTTATGGA    9240

GCACGAGCTG ATGAACTCGG ATTCGGGCGT CACTTTTGAA GATGTTATGG AACTCTGTGA    9300

TGTCCATGCC AATCTTTTTA AAAATGCTAT CAAAGGTGTC GAAGTTTCAG ATACTGAGCA    9360

TCCAGGTCAC CCAGTTCGTG TCTTCAAAGA AGAAAATCTG GCTCTCCGTG CGGCCTTGAT    9420

TCGCATTCGT AGATTGTTAG ATACCTATGA GTCTATGGAA GACGAGGAAA TGCTGGCGGA    9480

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ACGTAAGGAA GAACTCTTCT TTCCTATCAT GGAGCGCTAT GGACACGATT CACCTCCCAA    9600

AGTTATGTGG GGAGTGGATG ATCAGATTAG GGAACTCTTT CAAACAGCTC TAACGACAGC    9660

CAAGTCACTA CCAGAAGTGT CAATTAGCAG TGTAAAGGAA GCTTTTGAAG CTTTTGCGAC    9720

AGAGTTTGAA AGTATGATTT TCAAGGAAGA GTCCATCCTC CTCATGATTC TCCTTGAGTC    9780

TTTTACTCAG GATGACTGGC TTCAGATTGC GGAGGAGAGC GATGCCTATG GCTATGCCAT    9840

CATCCGTCCG TCAGAGAAAT GGGTGCCAGA ACGACAGAGC TTTATTGAGG AAAAGATTGC    9900

AGAGGAGCCT GTACAGCTAG ATACGGCAGA AGGTCAAGTT CAACAAGTCA TAGATACGCC    9960

AGAAGGCCAT TTTACCATTA CCTTTACCCC TAAGGAAAAG GAAGCTGTGC TGGACCGCCA    10020

TAGTCAACAG GCTTTTGGTA ATGGCTATCT TTCAGTCGAG CAGGCCAATC TCATCCTCAA    10080

TCATCTCCCT ATGGAGATTA CCTTTGTCAA TAAAGAAGAT ATTTTCCAGT ATTACAATGA    10140
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1206

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CAATACGCCA GCTGATGAGA TGATTTTCAA ACGGACGCCG TCCCAAGTCG GGCGCAATGT      10200

CGAACTCTGC CATCCGCCTA AGTACTTGGA CAAGGTCAAA ACTATCATGA AGGGGCTTCG      10260

TGAGGGAAGC AAAGACAAGT ATGAAATGTG GTTCAAGTCT GAGTCGCGAG GTAAGTTTGT      10320

CCACATCACC TATGCTGCAG TACACGATGA AGACGGAGAA TTCCAAGGAG TGTTGGAGTA      10380

TGTTCAGGAT ATCCAGCCCT ACCGTGAGAT TGATACGGAC TATTTTCGTG GATTAGAATA      10440

AGGAGAAAAA ATGAGTTACG AACAAGAATT TATGAAGGAA TTTGAAGCTT GGGTCAATAC      10500

CCAAATCATG ATTAACGACA TGGCGCACAA GGAAAGCCAA AAAGTTTACG AAGAAGACCA      10560

GGACGAGCGT GCCAAAGATG CCATGATTCG CTACGAGAGT CGCTTGGATG CTTATCAGTT      10620

CTTGCTTGGT AAGTTTGAAA ACTTCAAAGT AGGCAAGGGA TTCCATGATT TGCCAGAAGG      10680

CTTGTTTGGT GAGCGAAATT ATTAAACGAG AAAGATTCTT GATTTTTCAC TAAAATCTTG      10740

ATAGAATGTT TATGTTAAAT CCTTGTCAGA GCAGGGATTT TTTATTGAAA GGATTTTATC      10800

ATGTCAAAGA AACTCAATCG TAAAAAACAA TTACGAAATG GCCTCCGTCG CGCAGGTGCC      10860

TTTTCAAGTA CGGTGACTAA GGTTGTAGAT GAGACAAAAA AAGTCGTGAA GCGTGCAGAA      10920

CAGTCAGCAA GCGCAGCTGG TAAGGCTGTT TCTAAAAAAG TTGAACAAGC AGTAGAAGCT      10980

ACCAAAGAGC AAGCTCAAAA AGTAGCTAAT TCTGTAGAAG ATTTTGCAGC AAATTTGGGT      11040

GGACTTCCAC TTGATCGTGC CAAGACTTTC TATGATGAAG GAATCAAGTC TGCTTCAGAT      11100

TTCAAAAACT GGACTGAAAA AGAACTCCTT GCCTTGAAAG GAATCGGCCC AGCTACCATC      11160

AAGAAATTGA AAGAAAATGG CATCAAGTTC AAGTAATTTT TCTTGAGCCT TGCATTTCCG      11220

AAAAAATCTT GCTACAATAG AGCCATTAGA GGTGTTTTGA ATCCCACATT TTACAGAAAG      11280

TGGCGGCGCT GAGAAGTCCA CAAATGTGTC AAAACTGGTT GCTAATGGAT GAAAAATTGA      11340

AATAAAAGTG TCTTTTTGCT TTAAAGACGA GAGTTGCG                               11378
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(2) INFORMATION FOR SEQ ID NO: 211:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4156 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 211:

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CCGCGAGCCA CGGCGAATTT GCTGCGGGTA TTCATCAGTC AGGATCTATG ATCTTTGGTG       60

AACAAGAAAA GGTTCAAGTT GTGACCTTTA TGCCAAATGA AGGTCCTGAT GATCTATACG      120

CTAAGTTTAA TAACGCTGTT GCTGCATTTG ACGCAGAAGA TGAGGTTCTA GTTTTGGCTG      180
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1207

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ACCTTTGGAG TGGTTCTCCA TTTAACCAAG CTAGTCGCGT GATGGGAGAA AATCCTGAGC        240

GTAAGTTTGC CATCATCACA GGACTTAACT TACCGATGTT GATTCAAGCC TACACAGAGC        300

GCCTCATGGA CGCTGCTGCA GGTGTAGAAA AAGTCGCTGC TAATATCATT AAAGAAGCCA        360

AAGATGGCAT CAAAGCTCTT CCAGAAGAGC TAAATCCAGT CGAAGAAGTT GCAAGCGCTG        420

CAGCTGCTCC AGTTGCCCAA ACTGCTATCC CAGAAGGAAC TGTTATCGGA GACGGTAAAT        480

TGAAAATCAA TCTTGCCCGT CTTGACACAC GTCTACTTCA CGGTCAGGTT GCAACTGCTT        540

GGACTCCAGA TTCAAAAGCA AATCGTATCA TCGTTGCTTC AGATAACGTG GCTAAAGACG        600

ACCTTCGTAA AGAATTGATT AAACAAGCAG CTCCAGGTAA TGTCAAGGCT AACGTGGTTC        660

CAATTCAAAA ACTGATTGAG ATTTCAAAAG ACCCACGTTT TGGAGAAACA CATGCCCTTA        720

TCTTGTTTGA AACACCTCAA GATGCCCTTC GTGCCATCGA AGGCGGCGTG CCAATCAAGA        780

CTCTTAATGT TGGTTCTATG GCTCACTCAA CAGGTAAAAC ATTGGTCAAT ACCGTTTTGT        840

CTATGGACAA AGAAGACGTT GCTACATTTG AAAAAATGCG TGACTTGGGT GTTGAATTTG        900

ATGTCCGTAA AGTACCAAAT GATTCTAAAA AAGATTTGTT TGACTTGATT AACAAAGCCA        960

ATGTCAAATA AGCCATTATT TATGAAAGGA TTTTTAAACAT GTCTATTATT TCTATGGTTT       1020

TAGTAGTCGT TGTAGCCTTC TTTGCAGGTC TTGAAGGCAT CCTCGACCAG TTCCAATTTC       1080

ACCAACCACT TGTAGCCTGT ACCCTTATTG GGCTTGTAAC AGGTCACTTG GAAGCAGGGA       1140

TTATCCTCGG TGGATCGCTT CAAATGATTG CCCTTGGTTG GTCAAATATC GGTGCTGCTA       1200

TCGCTCCTGA TGCTGCACTT GCTTCTGTCG CTGCTGCCAT TATCATGGTT CTTGGTGGTG       1260

ACTTTACCAA GACTGGTATC GGTGTTGCCC AAGCGGTTGC TATCCCTCTT GCTGTAGCTG       1320

GACTTTTCTT GACAATGATT GTTCGTACAA TTTCAGTTGG TTTGGTTCAT ACTGCAGATG       1380

CTGCCGCTAA AAAAGGTGAC TTCGGCGCTG TGGAGCGTGC GCATTTCATC GCGCTACTTT       1440

TCCAAGGACT TCGTATCGCG CTTCCTGCAG CTCTTCTCCT TATGGTACCA ACTGAAACTG       1500

TACAAAGTAT CCTTAGTGCC ATGCCAGACT GGCTCAAAGA TGGTATGGCT ATCGGTGGTG       1560

GTATGGTCGT TGCCGTTGGT TACGCCATGG TTATCAACAT GATGGCAACT CGTGAAGTAT       1620

GGCCATTCTT CGCTCTTGGT TTCGTTCTCG CTGCTGTGTC AGATATTACT CTAATCGGAT       1680

TCGGTGCTAT CGGCGTTGCT ATCGCTCTTA TCTACCTTCA CCTTTCTAAA ACTGGTGGAA       1740

ATGGTGGCGG AGGAGCCGCA ACTTCTAACG ACCCAATCGG CGATATCCTA GAAGACTACT       1800

AAGATAAGAA AGGACTGAAA ACATCATGAC TGAAAAACTT CAATTAACTA AATCAGATCG       1860

TAAAAAAGTT TGGTGGCGTT CAACCTTCTT ACAAGGGTCT TGGAACTTTG AACGGATGCA       1920
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1208

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AAACTTGGGC TGGGCTTATA CACTCATTCC AGCTATCAAA AAACTCTATA CTAAAAAAGA      1980

AGATCAAATC GCTGCTCTTG AGCGTCACCT TGAGTTCTTC AACACTCATC CATACGTAGC      2040

TGCTCCAGTC ATGGGGGTTA CTCTTGCGCT TGAAGAAGAA CGTGCTAACG GTGTGGAAAT      2100

CGATGACGCT GCTATCCAAG GGGTTAAAAT CGGTATGATG GGACCTCTTG CTGGTATCGG      2160

TGACCCAGTA TTCTGGTTTA CAGTACGCCC AATCCTTGGA TCTCTCGGTG CTTCACTTGC      2220

CCTTACTGGC AATATCTTGG GGCCACTCCT CTTCTTTGTT GCATGGAACT TGATTCGTAT      2280

GTCATTCTTG TGGTATGTTC AAGAGATTGG ATACAAGGCT GGATCAGAAA TCACTAAAGA      2340

TATGTCTGGT GGTATCCTTC AAGATATCAC TAAAGGAGCT TCTATCCTTG GGATGTTCAT      2400

TCTTGCTGTC CTTGTTCAAC GCTGGGTAAA TATTAAATTT GCTTTCGATG TTTCTAAAGT      2460

TCAACTAGAT GAAAAGGCTT ATATCCATTG GGATAAATTG CCAGAAGGGT CTAAAGGTAT      2520

CCAAGAAGCA TTCGCACAAG TAGGACAAGG ATTGTCTCAA ACTCCTGAAA AAGTTACTAC      2580

TTTCCAACAA AACTTGGATA TGTTGATTCC TGGATTATCA GGACTACTCC TTACTTTACT      2640

TTGCATGTAC TTACTTAAGA AAAAAGTATC TCCAATCACT ATTATCCTTG CCCTCTTCGC      2700

AGTGGGTATT GTGGCACATG TTCTTCACAT CATGTAATCA AGCAACTAAA AAGGAACCAG      2760

GTTCTAAAAT CTGATTCCTT TTTTCTATGC TTTTATTCAG CCAAGGCTCC CATTGGATCC      2820

CATGGTGCAA GTACGATTGG TTCTGCTCCA TAGGCAGCTT GTTCTTCTGC TGTCAGCAAT      2880

TCCTTACGAA CAACGATTTG GTATGTGTAT TCGTCCATCC AAGCGTCTGA GGCAACAAAG      2940

TAACCATCTG TACCGACCTT GTCTCCCCAT GAGTTTTCAA CCTTCCACTT GGTTGATTTA      3000

CCATTTTCGT CCAAGTCAAC ACCTGTCAAG ACCATGGCGT GGGTCATCAA GCTTTCACTA      3060

TAGTCCAAAC GTCCAGCCTT GTCTTGAGTA AGTTTAATGT CCATGCTTGA TTCAAAGTCA      3120

TAAACATCTG TCGCAAGGAT GCCAGCTTAC GGTTGCTGAG CTGGCCGACA TCAGAACCAA      3180

ACCAAACAGT CTCACCTGCT TGCATTTGGG CAATCGCCAA TTCTTTCAAG CGCTCCATTG      3240

GAACGTTGAT GTAGCGAACT GCACGGCTAC CAACCACATT CCCCAACATC TCAACTGTGT      3300

AAGATTTTCC GTAAGGTTTA TCAGCAGTTG GAGCATTGAT AACAGAAACG TAGTCTTCTA      3360

AAGGAAGATT GACATATTTC TTGTAAAACT CTTGTGGTGT GATTCCTTTT TCACTTTTGT      3420

AGTTGTTATC TTTATCGCGA TAAGCAAAGT CAAACTTGCG TGGTGGAAGT CCTAATGACA      3480

TAGCAAGAAA GTTAAAGATT TCTTGCAAGA GGTCTTCTTT CTTAGCTTGA ACAGTCGCTT      3540

GATCTGCACC AGAAACAAGC AAGTCACGCA AGATTTGAGC ATCTTGACGA AGCAATTTAT      3600

TAAGGATCGC ATTTAGCTCA CGACTGCTGC TAGATGAAAC AGACTCAGGA TAAACTGACT      3660

TAGGCACGAC ACCGTATTTT TCAAAGAGGG AAACGACCAT ATCCCATTGA CCGCCATCTT      3720
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1209

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GTTGAGGTGT TTGGAGTAAG AAGCTAACtT GCGGCTAGTC AATTCTTGGT CTGAAGTCGC        3780

AATGACTTGC TCCAAGAACC AGTTTGATTT CTCATACTTA TCCCAGAAGA AAGTGTGGGC        3840

TTGTGACAAC TCAAAGTTCT CCAATTTGTA TTGCGAGATG AGTTTGTGGC GGAAGGTGTT        3900

GAGAGCCGCA AACATCCAGC AACGACCAGA CGCTTTCTGG TTAGTGACCT TGTCCTTGGT        3960

TAAATCCAAT GAGAAAACAG GTGTGTTGTC TACATGGCTT TGGCGACGTT CCAGAGCTGC        4020

AAAAATTCCG TTGTGGCTGG CAGCATTTTC AATCGCTTGG TATTTTACAT TTGCTTCATA        4080

GTTGGCAAAT AGTTTATCAG TAAATGATTC TTGAATCGCG TTCATAGATT CCTCCTTTTA        4140

GTCTACAGTG TATTGG                                                       4156
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(2) INFORMATION FOR SEQ ID NO: 212:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3902 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 212:

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AAAAACAACA AAATAAAACA AAAACAAAAA TATCGAGGTT TATTTTCAAA ACTTTCGATA         60

TTTTTATTAA GTTATTATTT TGTTGTTTCT AGTTTACTTT TTGATGGTTA AGAGTGGTGG        120

AGAATTATAC TCAATGAAAA TCAAAGAGCA AACTAGGAAG CTAGCCGCAG GCTGTACTTG        180

AGTACGGCAA GGCGAAGCTG ACGTGGTTTG AATTTGATTT TCGAAGAGTA TTAGTGCAAA        240

CCGTAGTTGT AGTCATCATC TTGCATGGCT TCAACTTCGC CAAGAAGGTA ACCATTTCCG        300

ACTTGAGAGA AGAAGTCATG GTTGGAAGTT CCTGTTGAAA TACCGTTCAT AACGATTGGG        360

TTGACATCTT CAGCTGAATC TGGGAAAAGT GGATCTTGTC CCATGTTCAT GAGAGCTTTA        420

TTGGCATTGT AGCGAAGGAA GGTTTTAACC TCTTCAGTCC AACCAACACC GTCATAAAGA        480

CTCTCTGTGT AGCCTTCTTC ATTTTCATAA AGAGTATAGA GTAGGTCGTA CATCCATTCT        540

TTGAGTTTTT CTTGCTCTTC TTCAGGTAAT TCATTGAAAC CAAGTTGGAA TTTGTAACCA        600

ATGTAGGTTC CGTGAACAGA CTCGTCACGA ATAATCAATT TAATGATTTC TGCAACGTTG        660

GCAAGTTTGT TGTTACCGAG ATAGTAGAGG GGAGTGAAGA AACCAGAGTA GAAGAGGAAG        720

GTTTCGAGGA AGACGCTGGC AACTTTCTTT TCAAGTGGGC TGCCGTTTAG GTAGATTTCG        780

TTGACAATCT CAGCCTTCTT TTGTAGGTAA GGATTGGTAT TGGTCCATTC GAAAATTTCT        840

TCAATCTCAG CCTTAGTATT CAAGGTAGAA AAGATTGATG AGTAAGATTT AGCGTGGACA        900
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                                         1210
GATTCCATAA ATTGGATGTT ATTGAAGACA GCTTCCTCAT GTGGTGTACG GATGTCTGCG      960

CGAAGGGCTT GAACCCCAGT TTCAGATTGC ATAGTGTCAA GAAGGGTTAA ACCACCAAAA     1020

ACTTTTCCGA CCAAGTCTTT CTCTTTGTTA GATAGCTTTC TCCAGTCATC CAAGTCGTTT     1080

GATAAGGGAA TACGTGTATC GAGCCAAAAT TGCTCCGTCA GTTTTTCCCA AGTTGATTTG     1140

TCGATGACAT CTTCGATGGC ATTCCAGTTA ATGGCTTTGT AGTAAGTTTC CATTTAAAAT     1200

CTCTTTCTGT GTTTAGTATT GCGAACTCAC AATTATTTCT ACTTTACCAT AATTCTATAG     1260

GAGTATCGCA CAAAAAGTCG GAAGCCCGAC TTTTAAAATG TTACATAAAT TATGTTATGA     1320

CATAGTAGAT TTGATTTTAT CAGTGCTGCT TAGGGAAAAA TAGTGTTTCT ATGCTAGAAA     1380

CTAAATCACA CAGCTTTCAC ATTGGTTGGC GCCGACTTCT CCACCGTCAT CTGTAAAGGT     1440

ACGGACGTAG TAGATAGACT TGATTCCCTT GTTAAAGGCA TAGTTACGAA GGATGGACAA     1500

GTCACGTGTC GTTTGTTTAT TTTCCCTCTT CCATTCGTAA AGGCCTTTTG GAATGTCACT     1560

GCGCATGAAG AGGGTGAGTG AAAGTCCTTG ATCCACGTGT TCAGTCGCAG CAGCGTAAAC     1620

ATCGATGACT TTACGCATAT CCATATCGTA GGCAGAAGTG TAGTAAGGAA TGGTTTCTGT     1680

AGACAAGCCA GCAGCAGGGT AATAGATTTT ACCAATTTTC TTCTCTTGGC GTTCTTCGAT     1740

ACGTTGCGTA ATCGGGTGGA TAGAAGCAGA AACGTCGTTG ATATAGCTGA TAGAACCATT     1800

TGGCGCTACA GCAAGGCGAT TTTGGTGGTA AAGACCATCT TCTTGAACCT TGTCGCGAAG     1860

TTCAGCCCAA TCAGCAACAC CAGGGATAAA GACATTTTTG AAGAGTTCTT TAACACGGTC     1920

TGATGTTGGA ACAAATTCAC CAGTTACATA CTTGTCAAAG TAACTTCCGT TAGCATAGTC     1980

TGATTTTTCA AAGTTGTGGA AGGTAATACC ACGTTCACGT GCAATATTGT TTGACTCTAC     2040

CAAGGTCCAG TAGTTCATAA GCATAAAGTA GATGCTTGTA AATTCAACAG ACTCAGGTGA     2100

ACCATATTCA ATGAGTTGTT GGGCAAGGTA GCTGTGCAGT CCCATGGCAC CGAGACCAAA     2160

GGTGTGGGCT TGGCTATTTC CATGGTCAAT CGTTGGTACA GCTACGATAT GTGAACTATC     2220

TGTAACGAAA GTAAGGGCAC GAACCATAGC ACGGATAGAA CGACCAAAAT CAGGTGAAGT     2280

CATCATGTTA ACCACGTTGG TTGAACCCAG GTTACATGAA ACATCTGTTC CCATTTGAAG     2340

GAATTCTTGA GCATCGTTGA TCAAGCTTGG TTCTTGAACT TGAAGAATCT CAGAACACAA     2400

GTTACTCATG ATAATCTTTC CATCAACAGG ATTTGCACGG TTAGCCGTAT CGATGTTGAC     2460

TACATAAGGA TAGCCAGACT CTTGTTGCAA TTTAGAGATT TCAGTTTCCA AATCCCGCGC     2520

CTTGATTTTT GTCTTGCGAA TATTTGGATT TGCGACCAAT TCATCGTATT TTTCAGTAAT     2580

GTCGATGTAA TTGAATGGCA CACCGTATTC TTTTTCTACA GAGTAAGGGC TGAAGAGGTA     2640

CATTTCTTCA TTTTTACGAG CCAATTCGTA GAATTTATCA GGTACTACAA CACCAAGTGA     2700
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1211

TAGAGTCTTG ACACGTACTT TTTCATCAGC GTTTTCTTTC TTAGTTGAAA GGAAAGCGAT   2760

GATATCTGGG TGAAAGACGT TGAGGTAGAC AACACCAGCA CCTTGACGTT GCCCCAATTG   2820

GTTGGAGTAA GAGAAGCTGT CTTCAAAAAG CTTCATAACA GGAACGACAC CTGAAGCAGC   2880

TCCTTCATAG CCTTTGATAG GTGCACCAGC TTCACGAAGG TTGCTGAGGG TAATTCCCAC   2940

ACCACCACCA ATACGTGAAA GTTGAAGAGC TGAGTTGATA GAACGCCCGA TAGAGTTCAT   3000

ATCATCCGTC ACTTGGATTA GGAAACAAGA TACCAACTCC CCACGACGAG CACGTCCAGC   3060

ATTCAAGAAG GAAGGAGTAG CAGGTTGGTA GCGTTGGTGG ATGATTTCAT TGGCAATATC   3120

GATTGCAACA GCTTCATTCC CATCAGCGAA ATAAAGGGCA TTGAAGAAGA CACGGTCTTC   3180

CATATTTTCA AGATAGTATT CACCGTCATT AGTCTTTAAG GCATATTGAT TGTAAAATTT   3240

ATAAGCTGCC ATGAATGACT TGAATTGGAA GTTTTGGTCT TTGATAAATT GAGCTAATTC   3300

TTCCAAGAAC TCTGGACGGT ATTTCTTGAT AAAGGCTGTT TCGATGTAGT TGTGTTCAAT   3360

GAGGTAATTG ATTTTGTCTT TGATTGAATC AAAAACCATA GTGTTTGGAA CTACATTTTC   3420

TTTAAAGAAA GCATCCAAGG CTTCCTTGTC TTTATGAAGC ATGATTTGTC CATTAACAGG   3480

ACGGTTAATT TCGTTATTAA GACGGAAGTA AGTCACGTCT TCAAGATGTT TTAATCCCAT   3540

AAAATTTCCC TTATCTAATT ACAAAAGAAA GGCTTCTAAG TTAGCCCTAA AAGCAGTTTC   3600

TTCTGGATGA TGTACTAAGA TTATGCTAAT TGTTTCAGTT TTCCTGGTTG GAAACCTGAA   3660

AAGACTTCAG TTGGTGTTTG GATAACAGGA GCTGCGCTAA AACCGAGCTC TTTAACTTGA   3720

TCGACGTACT CAGGTTGCTC ATCAAGATTG ATTTCACGAT AAGAGACATT ATTACTGTCC   3780

AAGAAACGCT TGGTCATTTT ACATTGGACA CAATTGTTTT TAGAATAAAC GGTTACCATT   3840

GTGTAACTCC TCTTCAAAAT TTAATACTAT CTTAGTATAT CAGAAAATAA AATTTTGTCG   3900

GG   3902

(2) INFORMATION FOR SEQ ID NO: 213:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2456 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 213:

TATTGAAGCT ATTGTAGACT ACAAAGATAA GGATTTGCAG TTAGTAGGCG GTGAGACTCA   60

CTGATAACCT AAAAAGGATA GTCAATTATG CTTGTTTACT AACTATTAAC TATGCTAAAT   120

1212

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CAATTGAGGT TGTTTACATA AAACTCTATA TCAGAGAAGC CTGATATAGA GTTTTTTCTT      180

GCTAGTTTTA GGATTTTTTT GTAAAATAGA AAAAGTGAAG AGAGGTATGA AATGAGCAAG      240

AAAGATAAAA AAATCGAAAT TCAAGTAGCG GATGCCAAAG TTAATGTTGG TAAAGACAGT      300

TTTGAAGGTT ATACATTGAC TATCGGTAAA AAAGTTATCG GAGAAATTGC CGAATTAGAC      360

GGACAATTTG CCATTATAAA GAATGGGAAT GTCGATAGTT TTTATAAAAA ATTGGAAAAA      420

GCTGTGGAAA TTTTGATTGA AAATTATAAT .TTAGCAAAAT AAGTCTTGTT TTTTTGAAAT      480

TTTCATGATA TAATAGTCCA TGTTGATTGT AGGAGAGATA GCGAAGAGGC TAAACGCGGC      540

GGACTGTAAA TCCGCCCCTT CGGGTTCGGG GGTTCGAATC CCTCTCTCTC CATTTCATTA      600

ATGGGGTATA GCCAAGCGGT AAGGCAAGGG ACTTTGACTC CCTCATGCGT TGGTTCGAAT      660

CCAGCTACCC CAGTTCTTAG GTAATAATCA AGATAGAAAG CAAAATATCT TAGGGTATTT      720

TATTTTTATA ATTGAAAGAC GTGAATGATA TGAACATGTC CTTGCGGGTG CTTAGGAAAA      780

AAATTATAAG TATGTCAAGT TTAAGAAAAA CTTGATTGTT GGAGGATTTT TTAGATGAAC      840

GAATTTGAAG ATTTGCTAAA TAGCGTTAGT CAAGTTGAGA CTGGTGATGT TGTTAGTGCT      900

GAAGTATTGA CAGTTGATGC GACTCAAGCT AACGTTGCAA TCTCTGGAAC TGGTGTTGAA      960

GGTGTCTTGA CTCTTCGCGA ATTGACAAAC GATCGTGATG CAGATATCAA TGACTTTGTT     1020

AAAGTAGGAG AAGTATTGGA TGTTCTTGTA CTTCGTCAAG TAGTTGGTAA AGATACTGAT     1080

ACAGTTACAT ACCTTGTATC TAAAAAACGC CTTGAAGCTC GCAAAGCATG GGACAAACTT     1140

GTTGGTCGCG AAGAAGAAGT TGTTACTGTT AAAGGAACGC GTGCCGTTAA AGGTGGACTT     1200

TCAGTAGAAT TTGAAGGTGT TCGTGGATTT ATCCCAGCTT CAATGTTGGA TACTCGTTTC     1260

GTACGTAACG CTGAGCGTTT TGTAGGTCAA GAATTTGATA CTAAAATCAA AGAAGTTAAC     .1320

GCTAAAGAAA ACCGCTTCAT CCTTTCACGT CGTGAAGTTG TTGAAGCAGC TACTGCAGCA     1380

GCTCGCGCTG AAGTATTCGG TAAAATTGGCT GTTGGTGATG TTGTAACTGG TAAAGTTGCT     1440

CGTATCACAA GCTTCGGCGC TTTCGTCGAC CTTGGTGGTG TTGACGGATT GGTTCACTTG     1500

ACTGAATTGT CACATGAACG TAATGTATCA CCAAAATCAG TTGTAACTGT TGGTGAAGAA     1560

ATTGAAGTGA AAATCCTTGA TCTTAACGAA GAAGAAGGAC GTGTATCACT TTCACTTAAA     1620

GCAACAGTAC CAGGACCATG GGATGGCGTT GAGCAAAAAT TGGCTAAAGG TGATGTAGTA     1680

GAAGGAACAG TTAAACGTTT GACTGACTTC GGTGCATTTG TTGAAGTATT GCCAGGTATC     1740

GATGGACTTG TTCACGTATC ACAAATTTCA CACAAACGGA TTGAAAATCC AAAAGAAGCT     1800

CTTAAAGTTG GTCAAGAAGT TCAAGTTAAA GTTCTTGAAG TTAACGCAGA TGCAGAACGC     1860

GTGTCACTTT CTATTAAAGC TCTTGAAGAA CGTCCAGCCC AAGAAGAAGG ACAAAAAGAA     1920
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1213

GAAAAACGTG CTGCTCGTCC ACGTCGTCCA AGACGTCAAG AAAAGCGTGA TTTCGAACTT   1980

CCAGAAACAC AAACAGGATT TTCAATGGCT GATTTGTTTG GTGATATCGA ACTTTAATCA   2040

AATTGAAAAT TCACAAAATC CTTTGTTTAC TAAACAAGGG ATTTTTCTGG CTCTTTGTCA   2100

ACTGTAGTGG GTTGAAGAAA AGCTAAGCTC GAGAAAGGAC AAATTTTGTC CTTTCTTTTT   2160

TGATATTCAG AGCGATAAAA ATCCGTTTTT TGAAGTTTTC AAAGTTCCGA AAACCAAAGG   2220

CATTGCGCTT GATAAGTTTG ATGAGATTAT TGGTCGCTTC CAGTTTGGCG TTAGAATAGT   2280

GTAGTTGAAG GGTGTTGACA AGCTTTTCTT TATCTTTGAG GAAGGTTTTA AAGACAGTCT   2340

GAAAAATAGG ATGAACCTGC TTAAGATTGT CCTCAATAAG TCCGAAAAAT TTCTCCGGTT   2400

CCTTATTCTG AAAGTGAAAC AGCAAGAGTT GATAGAGCTG ATAGTGGTGT TTCAGG   2456

(2) INFORMATION FOR SEQ ID NO: 214:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 10974 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 214:

AAATAGGATA TAGAGACATC CTTCTGATCT GCTTTTwACA AAGTCCAATT ATATGCGGAT   60

CTATACCTCC ACAATGTCCA TTATTATmCC TAACTATAAT ATGAGCCGAA AACACTATAT   120

CCTTAATGTC TCCATATCCA TCAGGGATAT TAATATTTAT TTTTCCACAA CTATATTGCA   180

TTGTAACCAT CTCCTTAAAC GACGCATTAT GATATTTGAT AGAGAAATTT TTATGAATAA   240

CTCAATAATT TTATAGTAAA TCATGCTTAT ATCTCAAAGA TACCTATTTT ATCTTGTCTC   300

GACCTTCTCC AAAGAATTGC TATAATACTA TTACAAATCC ATCTGCACTA CACTTCAAAT   360

TTTAGCACTG TATAAAAACG TTTCAATACA CTAACTTCAA GAAAACTTCC ACTATTAATT   420

GAAAAAATTG ATAGAGATAA ATTAAAAATC TATATTGAAA CTCATCCCGA TGCTTATTTG   480

ACTGAAATAG CTGCTGAATT CAACTGTCCT CCAACAACTA TTCATTACGC TCTAAAGGCT   540

ATGGGATATA GTCTAAAAAA GAGCCGTACC TACTGCGAAC AAGACCCAGA AAAAGTAAAT   600

CGGTTCCTTA AAGAATTGAA TCACTTAAGC TACCTGACTC CTATTTATAT TTATGAGACA   660

GGGGTTGAGA CCTATTTTTA TCTCGAATAT GATCGAGCCT TGAGCAGGCA GTTAGTCTCT   720

CTGGAAGAAG ATATAATTAT TTGAATTAAG ATCGAGACAA CGCACACCAG AGATTGCGAT   780

ACTGTTATAG AAGTACTAAT GCCCTTTTTT GTTTCAATAT ACTATGGCTC CGATGACCTA   840

1214

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TAAAGATACG ATGACGAGTG ACTTTTTCGA AGCTTGCTTC CAAAAATTCT TACTACCTAC      900

TTTAGATACA CCATCCCTTA TCATTATGGA CAATGCAAGG TTTCACAGAA TGAACATGTG      960

TAAGGAGCAG GGCATAGACT GTTACCACTT CCTACCTATT CACCCGAGTA TAATCCCATT     1020

GAGAAAATAT GGGCTTACAT CAAAAACATC TCAGAATAAT ATTGTCAAAT TACGATGCTT     1080

TTCTTGAGGC ACTTTTGTCC TATTCTTGTT TCAGCCGACT ATACTCCGTT ATTGGGCAGC     1140

TACGGAACAG TCGATGGGAC GATGGGGGGA CATAAAAAAA TCCTCCAGTT TTGTTTTTTA     1200

TAACAGTATA CTGGAGAATT GACAATCTCG GTAGATACCT CGTTATAGCG CGGTTACTTA     1260

TTAGGCAGTT ACAAACAAC TGTGAACAGA AAACATTCCA GAGTCAGACA AGACTTTGGA      1320

ATGTTTTGGC TCTATAATTT CTGTAGTGGG TAATCCCACC CCAGGAATTA TAGGGTCGTT     1380

TCTTGTAGAA AAAAAGCCCC ATATGACCTA TAATGAAAAG CGTCTAACCA ACTCATTAGA     1440

AAGGGTTCAT ATGGAACAAC TTAAGAATAC CACAGATTTG CTCGGATTGG AAGACAAAAA     1500

TATCAAAATC TTGTCTGTTC TGAAATACCA AACCCATCTA GTCGTTCAGG CAAAGTTGGA     1560

TTCCCCCGCT CCTCCTTGTC CTCATTGTCA AGGGAAGATG ATCAAATACG ACTTCCAGAA     1620

AGCCTCTAAA ATTCCGCTTC TCGACTGTCA GGGTTTACCC ACGGTACTGC ATCTCAAAAA     1680

GCGCCGCTTT CAGTGCAAGA ATTGCCTTAA GGTGGTCGTT TCTCAAACAT CCATTGTCAA     1740

GAAAAATTGC CAGATTTCCA ACATGGTGAG ACAAAAAATC GCTCAGCTCC TCCTTGAAAA     1800

GCAGTCTATG ACTGAGATTG CCCACAGATT GGCGGTCTCA ACTTCCACCG TCATCCGAAA     1860

ACTGAGGGAA TTTAAGTTTG AAACCGATTG GACCAAGTTG CCAAAAGTTA TGAGTTGGGA     1920

TGAGTATAGC TTCAAAAAGA GCAAAATGAG CTTCATTGCC CAAGATTTTG AGTCCAAATC     1980

CATCCTCGCA ATTTTAGACG GGCGAACTCA TGCGGTGATT CGAAACCATT TCCAACGCTA     2040

TCAGAGAGAG GTTCGGGAGC TGGTCGAGGT CATCACCATG GACATGTACA GCCCTTATTA     2100

TCGGCTCGCT AAGCAACTCT TTCCAAAGGC GAAGATTGTT CTTGACCGCT TCCACATTGT     2160

CCAACATCTG AGCCGAGCTA TGAACCGAGT ACGAATCCAA ATCATGAACC AATTTGACCG     2220

AAAATCCTTG GAGTATCGGG CGCTCAAGCG CTTTTGGAAC CCTCGCTTTT TCGTTTCTAG     2280

GCTCGGGCTA AATCAGTCCA CTGGACTGAT TTACTACACC AGTATAGCTT CAAGCTCTGT     2340

CAGAAACGAT TCTATCAGCC CACGTTTCGA ATGCACTTAA CCCATCGGGA AGTACGAGAT     2400

AAGCTGCTTT CTTACTCTGA GGGATTACAG GTTCACTACG AACTCTATCA ACTCCTGCTC     2460

TTTCATTTTC AAGAGAAGAA TGCCGACCAT TTCTTTGGAT TGATTGAGCA AGAACTGCCA     2520

ACGGTTCATC CGCTTTTTCA AACGGTCTTT TGGACTTTTT TAAGGGATAG AGATAAGATT     2580

ATCAACGCAC TTAAGCTGCC TTATTCCAAC GCTAAACTTG AAGCGACCAA TAATTTGATT     2640
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1215

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AAGATTATCA AGCGCAAAGC CTTTGGTTTC CGGAACTTTA ACAATTTTAA AAAACGGATT      2700

TTGATGACTT TGAACATCAA AAAAGAGAGT ACGAATTTCG TACTCTCCAG ATTGCAGCTT      2760

TTCGCCTACC CACTACACTT GACAAAGAGC CACTCTTTAT TCCATGGTAT CAAAGGCAAG      2820

ACTTGGTTTG GCATTGAGGT CCCAGCCTGC GAAGTTTTCT TTGTTCCACT CGCTGACGCT      2880

GGCATAGGCA ATCATACCTG CATTGTCTCC GCAGAGTCGC AGAGGGGGGA TGATAACCTT      2940

GACATCTGTG ATTTCGGCTG CTAGGCGTTC TCTGAGACCT TTATTGGCTG CCACACCACC      3000

TGCCACAACT AGGATTTTAA CAGGATATTT CTCCAAAGCC TTCTTGGTTT TTGCCATGAG      3060

AATGTCCATA ACTGCTGCTT GGAAGGAAGC ACACAAATCT TCTGTAGACA GGCTTTCTCC      3120

CTTTTGCTCG GCATTGTGAT GAAGATTGAT AAAGGCAGAT TTCAAACCTG AGAAGGAGAA      3180

CTCCAGATTA TCTTCCTTAA TCATGGCACG GGGGAAATCA TAAATATCCT GCCCCTGATG      3240

AGCCAGCTCG TCAATCTCAC GACCTGCAGG ATAGGTCAAG CCCATGACAC GGCCGACCTT      3300

ATCATAAGCC TCACCAACCG CATCATCACG GGTTTCCCCA ACAATCTTAT AATCTCCTGC      3360

CTCCGAAACA TAAACCAACT CTGTGTGTCC GCCGCTGACC AAGAGGGCTA GCAAGGGAAA      3420

CTCCAAAGGC TCCACACTCT GAGCTGCCAT GAGGTGCCCA GCCATGTGAT TAACAGGAAT      3480

CAGTGGAAGT CCGTGAGCCC AAGCAAAGGC CTTGGCAGCT GACAAACCAA CTAGCAAGGC      3540

TCCGACCAAG CCTGGTCCGT AGGTAACCGC AACAGCTGTC ACGTCCTCTT CGGTAATCCC      3600

TGCTTCTGCC AATGCCTCCT CGATACAGGC TGTAATGACC TCGACATGGT GACGACTGGC      3660

TACTTCGGGC ACTACGCCAC CAAAACGTTT GTGACTCTCA ATTTGACTAG CAATGACATT      3720

GGACAAGAGC TCATCGTCGT TTTTCAAGAC GGCGACACTG GTCTCATCAC AGGATGTCTC      3780

AAATGCTAAA ATATATCTAT CCTTCATCTA TTTCTCTCTT CATGATAATG GCGTCCTCGA      3840

CTGGGTCATG GTAGTAGGCC TTTCGCTCAG CGATAACTGT CATCTTTTCT TTCTTGTAAA      3900

ATGCTTGCGC TCGTTGATTT GACTGTCTGA CTTCGAGGAA AATTTCCTTG TCTGTCGGCA      3960

ATTGAGCAAA CAAGGCTGAC GCAATCCCCT GACCCTGATA AGCTCCTTTG ACAGCGATTT      4020

GCAGGACTTC TGCTTCAAAA AGATTCTCCT GCACAGCTAG AAATCCAATC ACTTCTGCCC      4080

CATCATAAGC CAATGCATAC CAAGTCTGGT CTTGGGACAG ATCTGCTTGG ATTTGCTCCA      4140

GAGTCCAAGG ACTGACTAGG TAAACAGCTG CCATAACAGC GTAGATGGCT TGAGCTAGGT      4200

CAGGCTGTTG TTGAATTCGC TTGATTTCTA TCATAGGCGT TTAATGTAAG ACTCGCCAGA      4260

CTCGGTATGG TTCTTGAGCC AGTTTTCCTC AGCCTCGACT CGTTTGAGGT AATTCGGCAC      4320

AAAATCATGC AAGGAGTCTG CTTCCTTGTC CCAGGCCAAA AGAGCTAGAT TAGCTGCATT      4380
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1216

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GGGCAATGTT TCTTTGTAAT CAGTCCTTGG CAAGTGTTTT TGAATCTGCT CAACAAAGGG    4440

GCCAACTTCT CCGACAAAGG TTACCTGACT AGTACCCTTG ACTTTTTCTA GCACCTCTTC    4500

AAAAGATAGG TGCGCTTCTG CCATGACAGG TTTGGCATTT TCATAAAATC CTGCATAAAC    4560

ATTATTGCGA CGCGCATCCA TCAAGGGGAC AAACAAACCT TCTTGTTGAT GGGGCACCAG    4620

AGCCAAGAGA CTCGACATAC CAACCAACTC GATGTTCAGG GTGTGAGCTA AGGTCTTAGC    4680

AGTTGCTACC GCAATTCGCA AGCCTGTATA GCTACCCGGC CCTTCAGCTA CCACGATTCG    4740

GTCCAAATCC TTGGGTGTCC AATCCAAACT TGCCATCAAA AAATCGATGG CAGGCATAAG    4800

AGTAATACTG TGATTTTTCT TAATATTAAT CGTCGTCTCG GCAAGAACCT GCTTATCCTC    4860

TAAAATAGCC AGAGAAAGAG CCTTGCTGGA CGTATCAAAA GCTAATACTT TCATAACACA    4920

TTCCTATCTT TTTGTCTGCT TACTATTATA CTACAAAAGC TGGCACATGG GAATTTTCTT    4980

TGCCCCCAGA CAAGAGTGCC CTCACTTAAC TAAAAATAAT TTAAAAAAAT GCTCACTTTT    5040

CCTTTTCTTT TCCGAATATA AAAGTGAACA AGAAAAAAGG AGGAAAGTTC AATGACAAAT    5100

TTTGACATTC TTGACAATCA ATTTTTATCC TTATCTGAAA ATGAATTATC AGATATTGAT    5160

GGCGGTCTCG CTCCCTTGGT TATCTTTGGA GTAGCAGTAT CTTGGAAGGC TATTGCAGGT    5220

GGAACAGCAC TTATAGGTTC TGGTTTGGCA GCTGGTTATT TTTTAGGAGG AGATTAATAT    5280

GATGAAAGAT TTGAACAATT ATCGTGAAAT TTCTAATAAG GAATTGCAAG AAATCAAGGG    5340

TGGCTTTGGT GTCGGTGTTG GTATCGCTTT ATTTATGGCA GGTTATACCA TTGGAAAAGA    5400

CCTTCGTAAA AAGTTTGGTA AGTCATGCTA GATAAGAAAC ACATTTTTAG AAGGATAAAT    5460

TTTATTGTCT TCATCTCTTA CAGTTTGCTC AGCATTCTCA ATGATTTGAA CATTACTACC    5520

ATCCCTTTAC CATTCGATTT ATCTGTTTGT ATTGTTTTAT TTTTATGCTT CAACTCTATT    5580

TTTGATCAGA ACAATGACTC CCATAAAAAT AATAAGCTTT GAAAATTCCA TTGTCATGTC    5640

ATGTTAGAAA AATGCAAAGA CCACCTCATC TTGATAGATG GGGTGGAATT TTCGTGTCGT    5700

AAATCTACTA TCTCTACATT CCCAAACAAA AAACCCCAGC ATAAGCAGGG CATCTAAGCA    5760

TTTAATTCAA AGTAAAATAC AAACCAAACG ACATAGGTCA CGAGGAGGAG AAAAAGCGAG    5820

TAGAGAGTCA CAAAGGTCAT TTTCCACAAG AACTTGGTTT GTCGTCGTTC CAGTTTGGCA    5880

AATAGAAGAT TCCCCGCATA AACGCAAGCA ACAAAAACAA TAAAAGCTAC CAAGCGAGCT    5940

CCGATAGCAA AAGCAAATAA GTTATACATA GGGCAACCTC CTTGACTTAA AATCTATATG    6000

GAATTATGAC AAGCAATAAA TTTCACTTCC GTTATCAACA TAATACATTT TCTTTATTTT    6060

TGAAACGCT TACCAAAGAA ATCGTCCCCT AACTTTCTCG TTTCCGTCTT TTACTAATTT    6120

TTCATTTTGT GGTATAATTG AAATAATTGT AACGAATCAA GGTCAATCTA GACACAAAAT    6180
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1217

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GGAATGAAAT CAAGCAAATA TCTGCTAAAA GTTTGGAATA AGCTGACCTG TAAATAGAAA      6240

GGAACTATAT GATTTACAAA GTTTTTTATC AAGAAACAAA AGAACGTAGC CCACGCCGTG      6300

AAACAACACG CACGCTTTAC CTAGACATCG ATGCCAGCTC AGAACTTGAG GGCCGTATCA      6360

CTGCTCGCCA ACTTGTCGAA GAAAATCGCC CAGAGTACAA TATCGAGTAT ATCGAACTCT      6420

TGTCTGACAA ATTGCTCGAT TACGAAAAAG AAACTGGCGC CTTCGAAATT ACGGAGTTCT      6480

AATATGGCCT ACACTCTTAA ACCTGAAGAA GTCGGCGTTT TTGCCATCGG TGGTCTAGGA      6540

GAAATCGGGA AAAACACTTA CGGAATTGAA TACCAAGACG AGATTATCAT CGTCGATGCT      6600

GGGATTAAAT TCCCAGAAGA TGACTTGCTT GGTATCGACT ATGTCATTCC TGACTACTCT      6660

TACATCGTGG ACAATATCGA CCGCGTCAAG GCTGTTTTAA TCACACACGG ACACGAGGAC      6720

CACATTGGTG GGATTCCGTT CCTACTCAAG CAAGCAAATG TCCCTATTTA TGCTGGACCG      6780

CTTGCCTTGG CTTTGATCCG TGGGAAACTC GAAGAACACG GCCTCTTGCG CAACGCCAAA      6840

CTTTACGAAA TCAACCACAA CACCGAGTTG ACCTTTAAAA ATCTCAAGGC AACTTTCTTT      6900

AGAACGACTC ACTCTATTCC AGAGCCTTTG GGGATTGTCA TTCATACTCC TCAAGGGAAA      6960

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CATCGTATGG CTGCGCTTGG TGAAGAAGGC GTGCTCTGTC TCCTGTCTGA CTCGACAAAT      7080

GCGGAAGTAC CAACCTTTAC CAACTCTGAA AAAGTCGTTG GTCAGTCCAT TATGAAGATT      7140

ATCCAAGGTA TTGAAGGACG TATCATCTTT GCATCCTTTG CCTCAAATAT CTTCCGTCTC      7200

CAGCAGGCAA CAGAAGCTGC TGTTAAGACT GGACGCAAGA TTGCGGTCTT TGGTCGTTCT      7260

ATGGAAAAGG CCATTGTCAA CGGAATCGAT CTTGGCTACA TCAAAGCTCC TAAGGGAACC      7320

TTTATCGAGC CAAATGAAAT CAAAGATTAT CCTGCAGGAG AAGTTCTTAT CCTCTGTACA      7380

GGTAGTCAGG GTGAGCCTAT GGCAGCCCTC TCTCGTATCG CCAACGGAAC CCACCGTCAA      7440

GTACAATTAC AACCAGGTGA TACCGTTATC TTCTCTTCTA GTCCCATCCC TGGAAACACT      7500

ACTAGTGTCA ACAAGCTGAT TAACATCATT TCTGAAGCTG GTGTCGAAGT TATCCACGGT      7560

AAAGTGAACA ATATCCATAC ATCTGGACAC GGTGGTCAGC AAGAGCAAAA ACTCATGCTC      7620

TGCTTGATTA AGCCAAAATA CTTCATGCCT GTCCACGGTG AATACCGCAT GCAAAAAGTC      7680

CACGCTGGAC TAGCAGTGGA TACTGGTGTT GAGAAGGACA ATATCTTTAT CATGAGCAAT      7740

GGCGATGTGC TTGCCCTTAC TGCTGACTCA GCTCGTATCG CAGGTCATTT CAACGCCCAA      7800

GATATCTATG TCGATGGAAA TCGTATCGGT GAAATTGGCG CAGCTGTCCT CAAAGATCGT      7860

CGCGATCTAT CTGAAGACGG TGTCGTTCTG GCAGTTGCAA CTGTTGACTT CAAATCGCAG      7920
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1218

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ATGATTCTAT CTGGTCCAGA CATCCTCAGC CGAGGCTTTG TCTACATGAG AGAGTCTGGC      7980

GACTTGATTC GCCAAAGCCA GCGTATCCTC TTCAATGCCA TTCGTATCGC ACTGAAAAAT      8040

AAGGATGCTA GCGTGCAATC TGTCAATGGT GCCATTGTCA ACGCTATTCG CCCCTTCCTC      8100

TATGAAAATA CCGAACGTGA ACCGATCATC ATCCCGATGA TCCTCACACC AGATGAAGAA      8160

TAAAGCAAGA AAACAGCCCC GTCCTCGGAG CTGTTTTTCT CTATGCTTTC TTTTGAGATT      8220

AAAACTCATA CTCAATGAAA ATCAAAGAGC AAACTAGGAA GCTAGCCGTA GGTTGCTCAA      8280

AGCACTGCTT TGAGGTTGTA GATAGAACTG ACGAAGTCAG TAGCCATACC TACGGCAAGG      8340

CGACGTTGAC GCGGTTTGAA GAGATTTTCG AAGAGTATCA ATAAAAATCG AAATCAGACT      8400

AGAAGGCTAA GCGAAAGCAT AACTTGAGTT AGCTCCCATA GTTCGGGAAA CTATGGGAGG      8460

CTGGAGATGA ATCAAAGCCA AGCTTTGAAC TCATTCGTAA GAAGCCGACG ACGTATCATT      8520

TTGATTTTTG AAGAGTTTTA GAAATACTAC GATTTTTACC TTCCAGATAC ACCATCAAAA      8580

TAGAAATATC TGCTGGGTTT ACTCCCGAAA TACGGCTGGC TTGGCCGATG GTTTCTGGAT      8640

TGATGAGTTT GAACTTCTGA CGGGCTTCGG TTGCGATAGA ATCAATGTCA TCCCAGTCGA      8700

TATTGGCCGG AATGCGTTTT TCTTCCATGC GTTTCATCTT GGCAACCTGG TCCATGGCTT      8760

TGGAAATATA GCCTTCATAC TTGATTTCTG TTTCAATCAA TTCGATAATC TTGTCATCCA      8820

AGTCTTCTGC AGCTGGTCCG ATGAAGGCCA CCACATCTTG GTAAGAAACT TCTGGACGGC      8880

GAAGGAATTC CTTGGCTGTC ACTGCATCGG TCAAGGGTTT GAAGCCCATC TCCTCAACCT      8940

TGGCATTGGT TTCCTTGACT GGCTTGAGTT TGATACTGTC TAGGCGCTTC ATCTCATTAT      9000

CAAATTGATT TTTCTTGATT TCAAAACGAG CCCAGCGTTC ATCGTCCACA AGGCCAATCT      9060

CGCGTCCCAT CTCAGTCAAG CGCATATCAG CATTGTCATG ACGAAGAATG AGACGGTATT      9120

CAGCACGACT GGTCAAGAGA CGGTAGGGTT CAATGGTTCC CTTGGTCACC AAGTCGTCGA      9180

TCATCACCCC GATATAACCA TCACTGCGCT TCAAAATCAA TTCAGGCTTG CCTTGGATTT      9240

TCAGAGCCGC ATTGATACCC GCGATAATCC CTTGGCCTGC TGCCTCTTCG TAACCTGATG      9300

TTCCATTTGT CTGACCAGCA GTGAAGAGAC CTGAGATTTT CTTGGTTTCC AAAGTCGCAC      9360

GCAACTGATG AGGCAAGACC ATATCATACT CAATAGCATA ACCTGTCCGC ATCATCTCTG      9420

CATTTTCCAA ACCTTTGATG GAATGCACCA AGTCACGCTG GACATCCTCA GGCAGACTGG      9480

TTGAAAGTCC TTGCACATAG ACTTCCTCAG TATTGCGCCC TTCTGGCTCA AGGAAGAGTT      9540

GGTGACGTTC CTTGTCCGCA AAGCGCACAA TCTTGTCTTC AATCGACGGA CAGTAACGAG      9600

GCCCCACTCC CTTGACCACA CCTGTAAACA TAGGCGCACG GTGGAGGTTG TTTTGGATAA      9660

TCTCATGACT GGTACCATTG GTATAGGTCA ACCAGCATGG TACTTGGTCC TTGACATAAT      9720
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1219

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CCTCATCACG  TGAAGTGTAT  GAGAAATGAT  TAGGCACTTC  GTCTCCTGGC  TGAATTTCTG      9780

TCACATCGTA  ATTGATAGAA  GAAGCCTTGA  CACGTGGAGG  GGTTCCTGTC  TTGAAACGAC      9840

CGATTTCGAG  ACCCAGTTCC  TTGAGATTGT  CAGCTAGGTT  AATAGAAGCC  AAGCTGTGGT      9900

TAGGACCTGA  TGAGTACTTG  AGGTCTCCGA  TGATAATTTC  CCCACGGAGA  GCAGTCCCTG      9960

TCGTCACAAT  AACAGCCTTA  GCAGCATATT  CTTGATGGGT  GGCTGTACGC  ACACCGACAA      10020

CCTTGCCATC  TTCCACCAAA  ATCTCATCAA  TCATGGTTTG  ACGAAGGGTC  AGATTTTCTT      10080

GGTTTTCAAC  CGTCTTGCGC  ATCTCCTTAG  AGTAAAGTTC  CTTGTCAGCC  TGCGCACGAA      10140

GGGCACGGAC  AGCTGGCCCC  TTCCCTGTGT  TTAGCATCTT  CATCTGGATG  TAAGTCTTGT      10200

CAATGGTTTT  GGCCATCTCG  CCACCGAGGG  CATCGACTTC  ACGCACGACA  ATCCCCTTGG      10260

CAGAACCACC  GATAGAGGGA  TTACAAGGCA  TGAAAGCCAG  CATTTCAATA  TTGATGGTCG      10320

CAAGCAGGAC  CTTACAGCCC  ATACGGCTAG  CGGCCAAGGA  AGCCTCAACC  CCAGCGTGTC      10380

CCGCACCAAT  TACAATAATA  TCGTATTCTT  CAGTAAAATG  ATAAGTCATG  TTTCTCTCCT      10440

ATTCCTCAAG  ATGAATGTGT  CTTAGTTGGC  CTTCCCAATC  TGGTAGGGCT  GTTTTTAAAA      10500

AGACTGGAAC  TAGCTGGATA  TTCTGGAGCT  TATCCAAGTC  AATCCACTCA  CAGGGCTGCC      10560

TTTTCTCATC  TTCCTGCATG  GTCAACGGGG  CATCTTCAAG  CAAATCCACC  AGATAATGAA      10620

ACTCGATATT  GTGATAGGAA  ACGCCGTCCA  CTTCAAAACG  ATTTTCAACC  ACAAAAGCTA      10680

GCTGCCCAGC  TTGAGCTTTG  ACACCCAGTT  CTTCCTTCAC  TTCACGGACT  ACCGCGTCTT      10740

CCGTGCTTTC  ATTGACTTGA  ATCGCACCTC  CAATAGTGTA  ATACTTGCCC  TTGTCTTTGG      10800

TAACTAGAAG  CTTGTGATTT  TGGACAATCA  AGGCTGTAGC  CCGAACACCA  AAAACCGTAT      10860

TGTCTACTTT  TGTCCGAAAG  TCTTGTTGAG  TCATTCTTGT  CCTTTCCCTT  AAACGACACA      10920

AAAACAGTCA  AAACTACAAA  GAAGTGCAGG  ACAAAAAAGC  CTGCAACATC  CAGG            10974
```

(2) INFORMATION FOR SEQ ID NO: 215:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 987 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 215:

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CCCGTTATGA  TTATGGATAG  CGCTTTCAAA  TTTTTAAACT  CCTATCCCAT  CCTTTTATCT       60

ATATAATAAG  TGAAAATATA  ATAACTGTCA  AGTAACTGAA  GTGAATTTTA  TAAAAAAATT      120
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                                      1220
ACAAGCCAAA TTTGTAAAGT TTACACTAAG CCGCTAGgCA ATCGTCTATC AGAATATCCG        180

TTTATTTGTC AATAATCCGA GAAAATCTTG CAACGCTTAG AAGTCTATAA AAACTATCAA        240

CATTTATATG ACTTGCGAAT AGCAATCCTG CTAAACCTTT CCACACTCTA TCTATACAAT        300

CAAGATAAAA ACATGTGTAA GCAAATCTGC TACACTTTAC TGGAGGACGC CAAGAATAAG        360

AAAAGCTACG ATAGGCTTGC TATCTGCTAT GTCCGTATTG GGATTTGTAC AGACGATTCT        420

AAACTTATCC AAAAAGGGTT CTCCCTTCTG GAGCTGACCG AGGAAACTTC TATGCTGTCT        480

CATCTCAAAA AAGAAGTAGA GACCCATTAT CAACCAAAGA AATTATAAAA AAAGTCGAGG        540

GAGCTCCTCG ACCTTTTCAT AGAATCGCCG AACGATTTAA CGAGAAAGTA TGACTTTTAC        600

GTTTATCCCA ACTCAATTAT GACATTTTTT TCAAAAGTCA ATATATCTCA CTTTTTCAAC        660

GACAAGAAAG AGGCTGATAA TCTACCAACC TCTTATTCTG AACCCATCAC TCCATCACTT        720

TTTAGCTTCA TTCGCTTTCT TAGCGACTGC AATCTGGTAT TCGACTTGGT CATTCCCCTT        780

ACCGGTACAA CCATGAGCAA TTGTAGTCGC TCCTATCTGA TGCGCTATTT CAACCAATTT        840

TTTAGAAATC AGAGGGCGGC TCAAGGCAGA TACCAAGAGA TACTTTTGTT CATAATAGGC        900

ATGTGACTGA TGAGCCACTA GCACATAATC TGTAGCAAAT TCGTCCTTAA CATCAATGAC        960

ATAAGATTCT ACTGCCCAAA CCTTAAG                                           987
```

(2) INFORMATION FOR SEQ ID NO: 216:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2651 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 216:

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CTGGGTCTTG TTCATAGTAG GTGTGGTtCT TTTTTTCGAG TGTAGCCCAT AGCTTTGAGC         60

GCATAGTGGA TGGTAGTTGG ATGACAGCCA AAGTCAGAAG CTATTTCAGT CAAATAAGCA        120

TCTGGATTGT CAGTAAGATA GTTTTTAAGT CTATCTCTAT CAACTTTTCT TGGTTTTGTT        180

CCTTTTACTT GGTGGTTTAG CTCTCCTGTT TTCTCTTTTA GCTTTAACCA GCCATAAATG        240

GTATTACGTG AGATTTGGAA AACGTGTGAT GCTTCTGTTA TACTACCTAT TCGCTCACAA        300

TAAGAGAGAA CTTTTTTACG AAAATCTATT GAATATGCCA TAAGAAGATT ATACCACATT        360

GTGTACTATT TTTGGTTCAT TTTACTATAT TTTATAAGTT ATAGTGTAGC ATTCCAACTT        420

CAAAGCACTA TAAAGTAAAT TGAAACAAGA ACAATACAAA CAATTCTCGT AAACGGATTG        480

CAACCACAAA AAAGCAAGCA TTCACAAGAA TACTTACCTA TCATGGGAGG AACAACCGTT        540
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1221

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CCTCTTTTTT ATTACTAAAA TTCAAAGAAT TCCAATGCTT TTTTCAAGAG CAAATCCGTA        600

TATTCTGGAT CTTCTTGGGC TACTTCTATT TCCCGCTGAA CTTTTTCCAA ATCATCTGTA        660

ATCACTCCAT CTACTCCTAA GTGAAGAGAT TTGCTGATAG CTTCTGAATC ATTGACAGTC        720

CAGACATAAA GTTTCTGATC CGTTGTCCAT AGTTTGCTTA CAAAATATTC ATCCAAGGTT        780

GAGTACTCCA TAGTATATCC TGTCGCTCTT GTTTTAGGAA AGACAGAATT GTAGGGCATG        840

ATGAAATAAA CTGGTAGTTC GGCATCATAC TGTCTTACTT TTTCGACAAC ATGGTAGTCT        900

AAAGACTGGA TTTGATGTCC ATAAATCTTG AGCTTTGCAG CATAACGGGC TAAAAAGCGG        960

TTCATCATGT CTGGACTATC TTTTTTACTG GTTTTAATTT CAATTAGTAA TTTTTGACCA       1020

AGTTCGTTGG CTCGACTGAG ATAATCTTCA AAGCTTGAAA TTTTAGTCTG GTAGCCATTT       1080

TCAAAAATAT CAATCCCTTT AAGCTCCTCC AAGTTTAAGT CTTGAGGACT TTTATTGATA       1140

CCTGCTAGAT TTTTCAAGTT AGCATCATGC ATCATGACAA ACTGCCCATC TTTTGTTTCC       1200

TGCACGTCCG TCTCCACCAA GTCTGGTTTG AGTTGTGCTG TAGTTTCCAA GGACTCTACT       1260

GTATTTTGAA TCCCATTTGC ATTGGAAACC CCTCGGTGAG AAATAAGTTG AGGTAGATGA       1320

ACCATGGGAG CCTCCAGATA AATATAACCT TCTAAGGCAA AGAAAGACT GGCACAAGTC        1380

ATGACACCCC ATCGCACGAT GTGATCTTTT TCTCTCCTAG GAAGCATATC CAGCTCCTTT       1440

CCTGTCAAAA ATGAAACAAA TTTAACCAAA AAATAAGTCA GAGCCATATA ATAGAGATTT       1500

TTAATCACGA CAAAATTCAA AATACCAAGA ATCAGAGACT CTCTCTGAGT GATATCATCT       1560

ACCAAAGTTT GAGCCAATAA TAAAGGAATC AAAGGAAGAT ArAATAATAA ATGTGCTTTG       1620

AGCAAGATGT AAAATAAATT CCAAGCATAA AAAGTAACTC TCTTCTTGGT TTTCTCCAAG       1680

CTAAACATCA CTGCTTCTCG AACAGTCAGC TGATCATATA CAATCTTCGG AAGGGCAAAC       1740

ATCAATCTGA CAGAGACATA GAGAAAGATA AGAGATAGAA GTAGGATGCT CAGCCACCAC       1800

ATCCAATATC TATCTTCTAA ATAAGCTTGG ATAAACTCTG GAATGACGAT TTTATTAAGA       1860

TAATAAATCT TCAGCATTTT CCGTATAAAA GGAAACAGCA TAGCTATATA GAAAAAGATA       1920

AACAAGGCTT TAGCGCAAGT TAGCTTTTTC ATAAATCCAA AACTTTCATG GAAAACCTTG       1980

CGGATATACT CAATTAGCCT TCGCTTTTCA TTATAGAGGA GATGACGAGC ACCAATAAAG       2040

AGGAGTCCTA TTTGAAAATA AGCAACCAGA AGGTTAATTA CAATCAAGGC TAAAAAAGCT       2100

AGACTAATCA ATGGAGAATG AGTAAGGATG GCTAAGACAT TGTTATAGGA AATAAAAAGA       2160

TAACCTGTCT GATCTAATAA GAAGCTAGCC AACCATGAAT TGAATGGTAC CCACAAATAC       2220

TCCACTATCA TAAAAATCAA GAAAAATAGA AAGAGGATTT TATCAAGATC GAGGTAAATC       2280
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1222

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TGTTTAAGAC CCAATTTTTT AGGTTTTTCA GGTTTCATAG GCACTCCTAG TCAAATAATT        2340

GAGACAAGTC CAAGCCACCA AAAGGATTGT TTGATAAGCT ACTTTCTGTC TCTAACAATT        2400

CCCTAGCTTG ATCCGACTCT AAGAAGGATT CGTAAACACG CGCCGTCATC CGAGCATCCT        2460

CTAAACTATT ATGAGACTGA CCTTGAAATC CAAGAAATGA GGCAACAGTT TGCAATTTGA        2520

GATTGGCAAT ACCATGTAAA TCTGAACTCC GACGTTCAAA AGCTTCATCA TACAAATCCA        2580

CCTTGTACTG TTGGCTATAG TCTAAACCAT GCTCTGCTAA AATAGGTAAA TCACTTTTAG        2640

CAGCATTGTA G                                                            2651
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(2) INFORMATION FOR SEQ ID NO: 217:

     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 5638 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 217:

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CGTTATAATA AACTTGTGAA AAAATTAACA AAGGATATCG TTCCTTGAAA GCTATGGAGG          60

AAAATATGGC TGATAAAAAA ACTGTGACAC CAGAGGAAAA GAAACTCGTT GCTGAAAAAC         120

ACGTAGATGA GTTGGTTCAA AAAGCTCTAG TTGCCCTTGA AGAAATGCGT AAATTGGATC         180

AAGAACAAGT TGACTACATC GTTGCCAAAG CATCAGTAGC AGCTTTGGAT GCCCACGGAG         240

AATTGGCTTT ACATGCCTTT GAAGAAACAG GACGTGGTGT ATTTGAAGAC AAAGCAACTA         300

AGAACTTGTT TGCCTGTGAA CACGTAGTAA ACAACATGCC CCACACTAAG ACAGTTGGCG         360

TTATCGAAGA AGACGATGTA ACAGGATTGA CTCTTATTGC TGAACCAGTT GGTGTTGTTT         420

GTGGTATTAC TCCAACAACA AACCCAACAT CAACAGCAAT CTTCAAATCA TTGATTTCAT         480

TGAAGACACG TAACCCAATC GTCTTTGCCT TCCATCCATC AGCACAAGAA TCATCTGCTC         540

ATGCAGCTCG TATCGTCCGC GATGCAGCTA TCGCAGCTGG TGCTCCTGAA AACTGTGTGC         600

AATGGATTAC TCAACCATCT ATGGAAGCAA CAAGTGCCCT TATGAACCAC GAAGGTGTTG         660

CGACAATCCT TGCAACAGGT GGTAATGCCA TGGTTAAGGC GGCTTATTCA TGTGGTAAAC         720

CAGCTCTTGG GGTAGGTGCC GGAAACGTTC CAGCTTATGT TGAAAAATCA GCAAACATTC         780

GTCAAGCAGC ACACGATATC GTCATGTCTA AATCATTTGA TAACGGTATG GTCTGTGCAT         840

CTGAACAAGC AGTTATCATT GATAAAGAAA TTTACGATGA ATTTGTAGCA GAGTTCAAAT         900

CTTACCACAC TTACTTTGTA AACAAAAAAG AAAAAGCTCT TCTTGAAGAG TTCTGCTTCG         960

GCGTCAAAGC AAACAGCAAA AACTGTGCTG GTGCAAAATT GAACGCTGAC ATCGTTGGTA        1020
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1223

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AACCAGCAAC TTGGATTGCA GAACAAGCAG GATTTACAGT TCCAGAAGGA ACAAACATTC      1080

TTGCTGCAGA ATGTAAAGAA GTTGGCGAAA ATGAGCCATT GACTCGTGAA AAATTGTCAC      1140

CAGTTATTGC AGTTTTGAAA TCTGAAAGCC GTGAAGATGG TATTACTAAG GCTCGTCAAA      1200

TGGTTGAATT TAACGGTCTT GGACACTCAG CAGCTATCCA CACAGCTGAC GAAGAATTGA      1260

CTAAAGAATT TGGTAAAGCT GTTAAAGCTA TTCGTGTTAT CTGTAACTCA CCTTCTACTT      1320

TTGGTGGTAT CGGGGACGTT TACAATGCCT TCTTGCCATC ATTGACACTT GGATGTGGTT      1380

CTTACGGACG CAACTCAGTT GGGGATAACG TTAGTGCCAT TAACCTCTTG AATATCAAAA      1440

AAGTCGGAAG ACGGAGAAAT AACATGCAAT GGATGAAACT TCCTTCAAAA ACATACTTTG      1500

AACGTGATTC AATTCAATAC CTTCAAAAAT GTCGTGACGT TGAACGTGTC ATGATCGTTA      1560

CTGACCATGC CATGGTAGAG CTTGGTTTCC TTGATCGTAT CATCGAACAA CTGGACCTTC      1620

GTCGCAATAA GGTTGTTTAC CAAATCTTTG CGGATGTAGA ACCGGATCCA GATATCACAA      1680

CTGTAAACCG TGGTACTGAG ATTATGCGTG CCTTCAAACC AGATACCATC ATCGCACTCG      1740

GTGGTGGGTC TCCAATGGAT GCTGCCAAAG TAATGTGGCT CTTCTACGAG CAACCAGAAG      1800

TGGACTTCCG TGACCTTGTC CAAAAATTCA TGGATATCCG TAAACGTGCC TTCAAGTTCC      1860

CATTGCTTGG TAAGAAGACT AAATTCATCG CGATTCCAAC TACATCTGGT ACAGGATCTG      1920

AAGTAACACC ATTTGCCGTT ATCTCTGATA AAGCAAACAA CCGTAAATAC CCAATCGCTG      1980

ACTACTCATT GACACCAACT GTGGCAATCG TAGATCCTGC TTTGGTATTG ACAGTTCCAG      2040

GATTTGTTGC TGCTGATACT GGTATGGACG TATTGACTCA CGCGACAGAA GCATACGTAT      2100

CACAAATGGC TAGTGACTAC ACTGATGGTT TAGCACTTCA AGCCATTAAA TTGGTCTTTG      2160

AAAATCTCGA AAGCTCAGTT AAGAATGCAG ACTTCCACTC ACGTGAGAAA ATGCATAACG      2220

CTTCAACAAT CGCTGGTATG GCCTTTGCCA ATGCCTTCCT AGGTATTTCT CACTCAATGG      2280

CCCATAAGAT TGGTGCGCAA TTCCACACAA TCCACGGTCG TACAAATGCT ATCTTGCTTC      2340

CATACGTTAT CCGTTACAAC GGTACACGTC CAGCTAAGAC AGCAACATGG CCTAAGTACA      2400

ACTACTACCG TGCAGATGAA AAATACCAAG ATATCGCACG CATGCTTGGA CTTCCAGCTT      2460

CTACTCCAGA AGAAGGGGTT GAATCTTACG CAAAAGCTGT CTACGAACTC GGTGAACGTA      2520

TTGGGATCCA AATGAATTTT AGAGACCAAG GAATTGACGA AAAAGAATGG AAAGAACATT      2580

CTCGTAAATT AGCCTTCCTG GCTTATGAAG ACCAATGTTC ACCAGCTAAC CCACGTCTTC      2640

CAATGGTAGA CCATATGCAA GAAATCATCG AAGATGCATA CTATGGCTAC AAAGAAAGAC      2700

CAGGACGCCG TAAATAATTG TTTATCAGTC TAGAAGCAAG ACAAAAACTC AATTTGAGGG      2760
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                                       1224
AAAGATCCAG TAATTTTTCT ATGATAAAAG GCATCCTATC AAGGTTTTTG AACACCTGAT       2820

AGGATGCCTT TTTATGATAT TGAGGCCTTT TTGCCCTTTT TGAAAAACTA GAATAGAAAC       2880

AAAATATATA ATAGATTGAA ACTAGAATAG TACATATCTG CTTCTAAAAC ATTGTTAGAA       2940

TTCGATTTGA CTGTCCTGAT CGATTTGTCC TGTTCTTATT TCATTTTGAT ATATAAAAAA       3000

TATAGTATAG TAGACTGAAT CTAAAATAGT ACGAAACAAT TGCTAAAACA TTTATAGAAA       3060

TTAATTTTAC TTTTCTGATA GAGTTGTTCA CATCTTATTT CAATTCACTA TAGTTTAATT       3120

TAAGAGTAGT ATTTACTAAG GCCCAATTAA AATCAAAGAG CAAACTAGAA AACGAGTGCC       3180

ATTCAGCTCA AAACACTGAT TTGAGATTGC AGATAAGACT AGCCCCCTCA TTAACAGATT       3240

TACGATAAAA CGATGACAAG GTGTGTTGCT TTTTGATTTC TAAAGAGTAT AATGATAGAT       3300

CTCTATAAAA TAAGTGCGAA GGAAATGAGC TTTTATAGTC CTTTCGTTTT AAAATACTAT       3360

CTCAGATATT CTTATATCGA CAAGAAGTTT TTGAGTCATT CCCTCATCAT ACATATTAAA       3420

TAAATAGTGG CTCATTCAAT TTTTCACTAG AATAATAAGC TAGTATAGTA AACTGAAATA       3480

AGATATAAAC AAATAAATTG GAGCTTAACA TCCATTTCCA GCAATTTTTT AGAAACTACA       3540

GTGGACTATT CTAGATTCAA CATATTATAA AAACTAGAGT AAAAGAAAAG GATTGGATCT       3600

TGTGTAATGC AGGATCCAAT CCTTTCAATC ATTTTGTCCA ACTTTTGGAG GTTCCTACAA       3660

TGTAGTCGTC ATTAATAAAG ACAGATGGGA ATGACAGTGT TCCTATTTAT TTTGATAGAG       3720

ATCGATGAAT TCTTTAGATA GCAACTGAAT AATCTCTGTT GAAGCCATTT GGTCTTCTGC       3780

ATGCATAAAT AGCAAGGAGA ATCCTATTTT TTCTCCAGTA GCTTCTTTTT GTATGAGATT       3840

AGAGTGAATC TTGTGCGCTT CTACTAAGGA GTCTTCCGCT TCTTCAACTT TAATTTTCGC       3900

TTCTTTTAAA TTTCCTGCCT TAGCTAGTTG GATGGCTTCA ATAAAGGATG ATTTGGCTGC       3960

TCCACTATTG GCAATGAGCT GAAAACAGAT ATATTCCATT TCTTCTGTCA TCTTATTTCT       4020

CCTATCCATG CAAGTGCTTG TTCCAGAACT TTTGCTCCAT TCATCATTCC GTAATCCCGC       4080

ATATCAATGG TATCTACAGG GATATTTCCT GCAATTTCTT TCACAGCAAG TAACTCATAA       4140

CGAATTTGTG GCCCAATTAG AATGACATCT GCTTCATGGA TATTCTTTTT AGCTTCTGTC       4200

ATTGATTTTG CTTGGATAGA GATTTCAATC CCACGTTCAG TCGCACTTTG TTGCATTTTT       4260

TTAACAAGCA TACTTGTCGA CATTCCCGCA TTACATACTA ATAAAATTTG TTTCATAATC       4320

TTAACCTTCC ATTTCTTGTT CAACAACTTT GTCATTAACT TTGATAAATG GAATGTATAG       4380

AAGAACTCCA AGTGCAAAGA TGATGAATTG AACTAGAACT GCTCTCACGT CCCCTGCTGT       4440

TGCTAACCAT GCATTTAAGA ATACTGGTGT AGTCCAAGGA ACTTGTATAA ATGCAGGACT       4500

CATGAATTCT GTAACTGTTG CTAAGTAGCT GATTAAAATA CCAAGGACTG GAACTGTGAT       4560
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1225

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AAATGGAATA GCTAATGAAA TGTTATAAAC GATTGGGTAA CCGAATAATA CTGGTTCATT    4620

GATATTGAAG ATACCAGGTC CAAAAGATAA TTTAGCCACG TTTTTAGAGA CAGCATTGCG    4680

ACTCACTAAG AATGTTGCTA TTAATAAACA TAATGTAGAT CCACTACCAC CCATTAAAGC    4740

GAATGTTTGT ATTTGTGATA GGTTGATGAT GTGTGGAATG GCTTGTCCAT TATTTGCTGC    4800

AGTGATGTTT TCAGTAATGT TAATTAATAG TAATGGTTCT AGGATGGCAC TGTAAATAAC    4860

TGCTTGGTGA ATACCAAATA GCCATAACAT ATTTCCTAAA GAGTAAATAA TAATGACCCC    4920

GATTAAGCTT GTACCAATAT GACGAATTGG TTCTTGAATA AAGATTGTAA TGATTGAGAT    4980

TAAGTTCATT CCAGTTATAT TGAATAATAA TGCTGAAACA ACCCCAAATA AGGAGATGAC    5040

GGTCATGACT GGAAGTAATA CGCTAAATGA TCTACTAACA GCTGGTGGAA TATTTTCACC    5100

AAGGTTCATT TGTAAAGCTT TAACGTTTGA TAATTCAATG AATAATTCTG TTGCAATAAT    5160

CGtACGATAA CCCCGGCGAA CATTGCGCCT GTACCTGTGT TGTTGAATGA AAGAACACCT    5220

GAAATGTTTA CCGCATCTTT TGCTCCGTCA GGAACTACAG AAACTGTATT TGGCATCATC    5280

ACAATTAAAG AAACTAATGA TAGCATTGAT GCTGCTAACG GGTTTTCGAA ATCTCTGTTT    5340

TTAGCTAAGA AATAACCAAC CATTACAGCA ATAATCATAC CTGAAATACT TAAAGTACCG    5400

TTTGCAATTG TTATTCCCCA ATATTGGAAT CTTGTTAATG TATCCCCTTG GAAAATCCAC    5460

TTAAATACCG TGTTGTTCAA AAGAACGATT AAACCTGCCA AAATATATAA TGGCATTACT    5520

GTTACGAATG CATCTCTTAG GGTTTTTAAA TGAATTTGGT TCCCTAGTTT ACCAGCAAAG    5580

GATGGCAAAA AAATTTTTTT GGGGGGGGGG GTTATTAAAC CCCCCTTTTT AAAAAAAA     5638
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(2) INFORMATION FOR SEQ ID NO: 218:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4745 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 218:

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CCGGAAGCTG TTGCCCTTGG AACTCCAAAT GAAGAAACAG CCTTTGTCTT GAACTATTTT      60

GGTGTGGAAG CACCACGTGT TATCACTTCT GCCAAAGCAG AGGGGGCAGA GCAAGTTATC     120

TTGACTGACC ACAATGAATT CCAACAATCT GTATCAGATA TCGCTGAAGT AGAAGTTTAC     180

GGTGTTGTAG ACCACCACCG TGTGGCTAAC TTTGAAACTG CAAGCCCACT TTACATGCGT     240

TTGGAGCCAG TTGGATCAGC GTCTTCAATC GTTTACCGTA TGTTCAAAGA ACATGGTGTA     300
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                           1226
GCTGTGCCTA AAGAGATTGC AGGTTTGATG CTTTCAGGTT TGATTTCAGA TACCCTTCTT    360

TTGAAATCAC CAACAACACA CCCAACAGAT AAAATCATTG CTCCTGAATT GGCTGAATTG    420

GCTGGTGTGA ACTTGGAAGA ATATGGTTTG GCAATGTTGA AAGCTGGTAC CAACTTGGCT    480

AGCAAATCTG CTGAAGAATT GATTGATATC GATGCTAAGA CTTTTGAACT CAACGGAAAT    540

AATGTCCGTG TTGCCCAAGT GAACACAGTT GACATCGCTG AAGTTTTGGA ACGCCAAGCA    600

GAAATTGAAG CTGCAATGCA AGCTGCCAAC GAATCAAACG GCTACTCTGA CTTTGTCTTG    660

ATGATTACAG ATATCGTCAA CTCAAACTCA GAAATCTTGG CTCTTGGTGC CAATATGGAC    720

AAGGTCGAAG CGGCTTTCAA CTTCAAACTT GAAAACAATC ATGCCTTCCT TGCTGGTGCC    780

GTTTCACGTA AGAACAAGT GGTACCTCAA TTGACTGAAA GCTTTAATGC GTAAGATTTT    840

GGGTGTCAGC TCAAAATCGG AAAGTCTAGT TTGCCTTATA TCGCAAGGAG TTTCGGCTCC    900

TTTTTTCTAG GAGTGAAGTA TGTTAGAAAA TGGCGATTTG ATTTTTGTGA GAGATGGGTC    960

AGACATGGGA CAGGCCATCC AGACTTCCAC AGGTAACTAT AGCCATGTTG CCATTTATTT   1020

GGATGGGATG ATTTATCATG CTAGTGGACA GGCTGGTGTT GTCTGTCAAG AACCGGCAGA   1080

CTTCTTTGAG TCCAATCATT TATACGACCT CTATGTTTAC CCAGAAATGG ATATCCAGTC   1140

GGTGAAGGAA AGAGCTTGCA AACATCTTGG AGCACCCTAC AATGCTTCTT TCTATCCAGA   1200

TGCAGCTGGT TTTTACTGCT CCCAGTATAT AGCAGAAATC CTACCTATTT TTGAAACTAT   1260

TCCTATGAAA TTTGGAGwTG GGGAGCAGGA GATTAGTGAT TTTTGGAGGG AGTATTACAT   1320

AGAACTAGGT CTGCCTGTTC CTCTGAACCA AGCTGGTACC AATCCTAGTC AGTTGGCAGC   1380

ATCGCCTCTG TTACAATGTA AAGAAAGGAA TCTTCATGAT TCAGATTTTT AATCCATCTC   1440

GTTTGACGAG ACAGCCATTT TTGGAGAATT GATCCGCTAT CTGGATCAGT ATGAGGATGT   1500

GATTCTACGG GAAATTAAGG CTCAATTTCC AGATGTTGCA GTTGATAAAC TCATGGAAGA   1560

GTATATAAAG GCAGGCTTGA TTCTACGTGA AAATAAGCGC TATTACCTCA ATTTTCCTAC   1620

GCTTGAATCA CTTGATAGTC TTGAACTGGA TCAAGAGATT TTTGTCAGAG AAGCTAGTCC   1680

GGTCTATCAA GCCTTGTTGG AGCAGAGTTT TGAGACGGAA TTGCGCAATC AAATCAATGC   1740

AGCTATTTTA GTTGAAAAGA CGGACTTTGC GCGCATTAAA ATGACCCTGT CCAATTATTT   1800

TTACAAGGTC AAACAGCAGT ATCCTTTGAC AGAAAAACAG CAGGAGCTCT ATGACATTTT   1860

AGGAGATGTT AATCCTGAGT ATGCCCTCAA GTATATGACG GCTTTTTTGT TGAAATTTCT   1920

CAAAAAAGAC CAGCTTATGC AGAAATGCCG TGATATCTTT GTGGACAGTT AGGTTGTCTT   1980

AGGCTATATT GTGCAAAATG AAGATGGAAA GTATGAGTTG CTATCGATT TTGATAAGGA   2040

GAGGTTAACT TTCTACTTAG CGTGATTTCT TGTTTCTGAG TACATTGTTT GACTTTCCTT   2100
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1227

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AGTATTCGGT ATAAACTATA TGTAACCGGT AACACATATC GGAATAAACT AAAGGAGACA    2160

ATCATATGTC ACTTGAAAAC AAATTGGAAC AAGCAACAGG CGCTGTCAAA GAAGGTTTTG    2220

GTAAAGTTAC TGGAGACAGC AAGACAGAAC TTGAAGGAGC TGTTGAAAAA ACAGTTGCTA    2280

AGGCAAAAGA CGTTGTAGAA GACGCAAAAG GTGCTGTAGA AGGTGCCGTT GAAGGTTTGA    2340

AAAACGTTTT TACTAAAGAA TAGGAAAAAA TCAAGGGTTT CATTTTCCCT TGATTTTTTC    2400

TATTCTTATA AATAATTTTC TGCGACGGCT GTATCTCCTG GGTAGGATTC TTTCTTGCCC    2460

TGGATGATTT GGTAACAATC GGCTCCCTTA CCCGCAATAA TAACTGCATC TAATTCGTGA    2520

TTTGTGATAG CCATTGCCGC CTTGATGGCT TCTTGGCGAT CCGCAATCTT TTCAACAGGA    2580

TGATTGATGT AGCTACTAAT TTCATCTGCA ATGGCCATTG GGTCTTCATA GTTAGGGTCA    2640

TCAGCAGTCA GAAAGACTTG AATCTCAGGG TGTTGATTGA GGAGGAGGCC AAAGTCCTTA    2700

CGACGACTTT CTCCCTTGTT TCCTGTTGAT CCCAGAACCA GAGCAATCTT TCCGGTTTGA    2760

TGAGTTTCAA CCACATTGAT GAGTTTTTTC AGACTATCCC CATTGTGGGC ATAGTCGATG    2820

AAGACCTTGG CTCCATTTTT CTGAGTGAGG ACTTCCATAC GACCAGGAAC GCGGGTTGCA    2880

GCGATGCCTT TTTTGATGTC CTCAAGACTT GCTCCGAGAC GGAGACAAGC AAGTCCAGCA    2940

GCAACTGCAT TTTCTTGGTT GAAGTTGCCA ATGAGTTGAA TATCATAATC TCCAGCGAGT    3000

TTACCCGTAG CTGAAAAGCT AAAGGCTTTG GAATTCTCGA TTTGGTTATC AAATTGGCTA    3060

CCATAGAAAT CATGGTCTTG ATCTTCAACC TGTTCTTTCA AGACTGAGAA GTGGTCCATG    3120

TCACTGTTAA TGATGACTGC TCGGCTCTTT TCCATCAAGA GACGCTTGTG GTAGAAATAG    3180

TCTTCAAAGC TAGGGTGTTC AATCGGGCCG ATATGGTCTG GGCTGATATT TAGGAAAACT    3240

CCCACATCAA AGGTTAGACC ATAGACACGT TTGACCAGAT AGGCTTGACT GGAGACTTCC    3300

ATGATGAGGT GGGTACGGTC ATTTTGCACA GCCTGATTCA TCATGTCAAA GAGGTCAATA    3360

CTCTCAGGGG TTGTCAACGC TGACTTAAAG AAAGTCTCGC CATCAAGAGT TGTGTTCATG    3420

GTCGACAACA TAGCAGGTCT ATGCCCTTGA GATAAGATGT TATAGGCGAA ATAGGCTGCT    3480

GTTGTCTTAC CCTTAGTACC AGTAAAGGCA AGGAGTTTGA GTTTTTCCTG TGGATTACCA    3540

TAGAACTCCA TGGCAATCAA ACTCATGGCT TTCTTTATAT CGTTCACAAT GATGACAGGG    3600

ATACCGACTT CGTAGTCCTT TTCAGCTACA TACCAAGCTA ATCCTTGTGT TATAGCAGAA    3660

AGAAGGTATT CTTTTTTAAA GGCAGCGCCT TTTGCGAAAA AAAGAGTGTC TTCTGTTACT    3720

TTTCGGCTGT CGTAGCTGAT GCTATCAAAA ATAACTTTGC TGTAGTTGTA GTGGTAATGA    3780

CCTTGGTCAA TAATTTCGCG AAAAAGGCCA TCTTTCTTTA AAATATCTAA TACGGTTTCA    3840
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<div align="center">1228</div>

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ATCTTAATCA TACTTTCTAT TGTAAACCGA AAGTCGTAAA TTTACAAGTA ACAAGGAAAA      3900

GTTTATAATG GAAGATAAGG AGTTTTTCCT AGTTATCAAA ATTGAATGAG GAATCTATGT      3960

CGCACGAAAA CAATCACCAG CAGGCCCAGA TGTTACGGGG GACTGCTTGG CTAACGGCTA      4020

GTAACTTTAT CAGTCGCCTA CTCGGGGCTG TTTACATTAT CCCTTGGTAC ATCTGGATGG      4080

GGGCTTATGC AGCTAAGGCA AATGGTCTCT TTACCATGGG TTACAATATC TATGCTTGGT      4140

TCTTGTTGGT TTCAACAGCG GGGATTCCAG TTGCGGTGGC CAAGCAAGTT GCCAAGTATA      4200

ATACCATGCG AGAAGAAGAG CATAGCTTTG CCCTGATTCG GAGCTTCTTA GGCTTTATGA      4260

CAGGACTAGG CCTGGTTTTT GCTTTAGTCT TGTATGTCTT TGCTCCTTGG CTAGCAGACT      4320

TGTCTGGCGT GGGCAAAGAC TTGATCCCAA TCATGCAAAG CTTGGCTTGG GGAGTCTTGA      4380

TTTTCCCGTC TATGAGTGTT ATCCGAGGAT TTTTCCAAGG GATGAATAAC CTCAAACCCT      4440

ATGCCATGAG CCAAATTGCT GAGCAGGTCA TTCGTGTTAT CTGGATGCTC CTAGCAACCT      4500

TTATCATTAT GAAGCTCGGT TCAGGAGATT ATCTAGCAGC CGTTACCCAA TCAACCTTTG      4560

CTGCCTTTGT CGGTATGGTA GCCAGTTTTG CAGTCTTGAT TTATTTCCTT GCCCAAGAAG      4620

GTTCACTCAA AAGAATCTTT GAAACAGGAG ATAAGATTAA CAGTAAGCGT CTCTTGGTTG      4680

ATACCATTAA GGAAGCCATT CCTTTTATCC TGACAGGGTC TGCCATCCAG CTCTTCCAGA      4740

TTTTG                                                                  4745
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(2) INFORMATION FOR SEQ ID NO: 219:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 1900 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 219:

```
CCTGATTGAC CTTATAATAA GGAACAAAAC ACAATGCACT ACCTTTTCAA CAAAAGAGTT       60

GCTGCTTGAT TAAAACCATC ACACCAGTTA TACCATTTTG CTTCATACCC ATCTTGAGCT      120

AGGATACGAT CTTCTAAATC AAAAACAGAG TAAATCTTTC TTTCCTCGCA AGCTTGCGCA      180

TAGAGATGAT ATAGTTCATC ACCACCATCT CTATCCCACT CAGCAGAAAT CGTATCCCGA      240

CCTGCCAATA AAGCCTGATA AGCCCTGTGA TGCCCATCTG TAATCAGCAA ACAATCTCCA      300

AAGGCAAGAA TACTGATTGG ATCGACTTGG ATTGTTTCTG CCGACTGGTA AAGCATCTGA      360

ATATCTTGCA ACTTCTTTTC TGATAAATAT AGTTGAGTCA GATGAAGATC TGCTATATTG      420

ACTTTCATTT CTTTCTCCTC AAGGGAATTC GATACTCACT TCTGTTTGCC TTTAAATCGC      480
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1229

CATTGGAAGC GGAgCTTGTC ATAAAAGGGA AACTCGATAA ACAGGACTCC CAAGCCCACA   540

CAGAGACTGG CAAGGACGTC TGATGGGTAA TGAACTCCCA GATAGACTCT TGATACCAGC   600

ACACTGACTA GGTAGAGGCC AAGGACGATT TGTACGATTT TTCTCCAGAC CTGATCTTTA   660

ATCCGCTGAC TAAGAATAAC AATCAAAGTC CCTACCATCA GCGTTACAGC TAGAGAATGC   720

CCACTTGGGA AGGAAAATCC CTTCTCCTCC ACCAGATGTA AAATAGCTGG TCGTGGGCGC   780

TGGTAGATAT TTTTAAAGGT CACGATTAAA AGACCTGCCA AAGCCAGATT TCCCAGCATG   840

AAGAAACTTT CTATCTTCCA TCGCTTACGA TAAAAGACAA AAGCTGTAAT GACAACCCAA   900

GTGATAATCA CTGGGATATC AATCAGACGT GTGAGGGCTC GAAAAAGAAT AGTCAAATAA   960

TCTGGTAAGT CTCCTCGAAT GGCAGTCTGA ATCGATTGGT CAAAATTGAC CAACATTTCA   1020

GGGTAAAATT TGACCATGTA GCCAAGAATA ACGAAAAGTA AAAGGGCAAA ACTGCCCTTC   1080

ATTAAAAATG TTTGTTTATC TCTCATAATG TTTTAAGGTT GGTTTCAAGA GAACATACAA   1140

CAACCAGAAT GAAACGGAAA AGATAACACC TTCAATCAAG TTAAAAGGTA ATACCATGGT   1200

CATTAGGTAG TTGGAAAGTC CCAAAATTTT TCCAATATCA AAGTTAGCAA ACTTAGCGTA   1260

CAAAGGAACA GCATAAACAT AGTTGAGAAC CAACATGGCC AAGGTTAAAC CAATAGTTCC   1320

AGCTAGAGAG CCTAGTAGGA AACGAAGGGT TGTCCGTTCC TTTTTCCAAA TCAAAGCAAA   1380

TACGATGACA AAAACTCCCA AAGCTACGAT ATTCATCGGC AAACCAATGT AAGTATTCAC   1440

TCCTTGGCTG TTAAGAAGCA ATTTCAAGAG TGAGCGAAGC AAGAGCACTC CTAGAGmCsC   1500

AGGCAAATCC ATGACCACCA GACCCACAAG GACTGGCAAG ATACTAAATT CGATCTTGAG   1560

GAAAGATGCC GCTGGTAAAA GCGGAAAGTC AAAGTACATC AGCACAAATG AGATGGCTGA   1620

TAGAATTGCA ATGGTCGAAA GTCGACGTGT GTTTGTCATA ACAGGTTCCT CCAATTTTCT   1680

ATAAAATCAG AAGAAGTTGG AAAGGATTCC TCTATCTATT CTCACTTTTT ATATCCCAAA   1740

AGTTCCCTCT TACTCTATTA AAGAAAAACA AAGCAAGTGG TTACAATCCG GCTATAAATC   1800

TATCAAAACA GACAAGGCTA TTCTTTCGTC TTCTCCCATC CAGACTATAC TGTCGGTTGT   1860

GGAATCTCAC CACATCACGT TGCGCTCACG GACTTCTTTA   1900

(2) INFORMATION FOR SEQ ID NO: 220:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4692 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

1230
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 220:

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GGTTTTCCAG CAGGAGCTTC TCCTTTATCA GAATGACCAT CCCATCTGCT CACGATAGAT        60

GAATAATGAT ATTTTTTACC ATGATAGTAA TTTGAAAAAG CCTAACCACC TCCTGAACCT       120

TCTCCATATG TCCATACTCC TCCATCTGGA TATTATACAG CAGCTGATGC AGCTCCCAAT       180

AATGTAAAAC TTGAAATAAG AGCTAGAGCA AGTAATCTAT GTTTTTTCGT TTTCATTTTA       240

TTTTTTCTTT CAAAAAAAGC ACACCTTGAG CAACAATGCA ACAAAATAAA TCCTCCTCTC       300

TCTTTTATTG AAACCGCTTT CTTATGTGAT AAGAATAACT TTTTTATtAT TTGTTGTCAA       360

GGAAAAAATC GAATTTTTTA GATATTTTAC TATATTACCT CTGTGAATAA TATTATATAG       420

TAGTTTTATT TCAAAATAAT ATGCAACCAG TACTAACCAA ATATAAAATA GATGCCATTA       480

ACGAATTTTA TTCAAGTTTT TCCCATTCAT ACTATACAAG TAAAAGAGAT GGTGTTAACT       540

AAAAAGCAAT TCAAACTATT GTAAAATTCC TAGCAAAAAG AGAGCCGAAA CTCTCTTTTT       600

TATCTTCTTT TACTTTTTTT GACTGGCATG AGTGTGATGT CTCTAACACT AAAGTAAGCT       660

AGGATCAACA TGGCTATTGC TAGGAATATT TCTGTTGGTA ATTGAAAAAT TTTCAGAAAA       720

GATAGAACCA ATAAAATCAA GAGTGCCACT AAAATACATA CCATAGCGAC GATATTGACA       780

GTCCCTTTAA TGCTTTCTGG TGTCGCAAAT ACATAGAGTA GGAGCAGTAA AATTCCTAGG       840

ACTAAATAGA CCATCTTTCT CTCTTTCTAG CTCTTATTCA GCTGATTTTT TCTTCTTGTT       900

AGCTTTCTCA CGCTCTGCTT TGTTAAGGAT TTGTTTACGC AAACGGATAG ACTCAGGCGT       960

TACTTCCATG TACTCATCGT CGTTCAAGAA CTCAAGAGAC TCTTCAAGTG TCAAGATACG      1020

AGGCGTCTTG ATAACAGCTG TTTGGTCCTT AGTAGCTGAA CGAACGTTGG TCATTTGTTT      1080

TGCCTTCGTG ATGTTAACTG TCAAGTCATT TTCACGAGAG TTTTCACCGA TGATCATTCC      1140

TTCATAAACC TCAGTACCTG GGTTGACAAA GATCGTACCA CGTTCTTCGA TAGACATGAT      1200

TGAGTAAGTT GTAGCCTTAC CAGCATCGAT AGAAACAAGG GCACCACGGT GACGTCCACC      1260

AATTTCCCCT GGAATCAATG GCAAGTATTG GTCGAAGGTA TGGTTCATGA TACCGTAACC      1320

ACGAGTCATT GATAAGAACT CAGTTGAGTA TCCAATCAAA CCACGCGCTG GAACAAGGAA      1380

GACCAAACGA GTTTGACCAT TACCAGTTGA AATCATATCC AACATTTCAC CTTTACGTTC      1440

AGAAAGGCTT TGGATAACAG ACCCTTGGTA TTCTTCTGGA GTGTCGATTT GTACACGTTC      1500

AAATGGTTCA CATTTAATAC CGTCGATTTC TTTTACGATA ACTTCTGGAC GAGATACTTG      1560

AAGTTCATAG CCCTCACGAC GCATTGTTTC GATAAGGATT GACAAGTGCA ATTCTCCACG      1620

TCCTGAAACA GTCCATTTAT CTGGTGAATC AGTTGGGTCA ACACGAAGGG AAACGTCTGT      1680

TTGCAATTCT GCCTGCAAGC GTTCTTCCAC CTTACGAGAA GTTACCCATT TACCTTCTTT      1740
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1231

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ACCAGCAAAT GGTGAGTTGT TGACCAAGAA AGTCATTTGA AGAGTTGGCT CATCGATGTG      1800

TAGGATTGGA AGAGCTTCTA CTGCATCTGT CGGAGTGATG GTTTCACCGA CAAAGATGTC      1860

TTCCATACCT GAAACGGCAA TCAAGTCACC CGCTTTGGCT TCTTGGATTT CACGACGTTC      1920

CAAACCAAAG AAACCGAAGA GTTTTGTAAC ACGGAAGTTT TTAGTTGTAC CGTCAAGTTT      1980

AGAAAGGGTA ACTTGGTCCC CAACCTTAAC TGTACCACGG AAGACACGAC CGATACCGAT      2040

ACGTCCAACG AAGTCATTGT AGTCCAAAAG TGACACTTGG AACTGCAAAG GCTCATCTGA      2100

GTTATCTACT GGAGCTGGGA TATGGTCGAT AATCGTGTCA AAGATTGGTG CCATAGTCGC      2160

TTCTTGGTCA GCTGGATCAT CTGACAATGA AGAAGTTCCG TTGATCGCTG AAGCATAAAC      2220

CACTGGGAAA TCAAGCTGGT CGTCATCTGC ACCAAGCTCG ATGAAAAGTT CCAAGACTTC      2280

ATCCACTACT TCTGCTGGAC GAGCTGATGG CTTATCGATT TTGTTAACAA CCACGATTGG      2340

GACAAGGTCT TGTTCCAAGG CTTTTTTCAA TACGAAACGA GTTTGTGGCA TGGTTCCTTC      2400

ATAGGCATCT ACGACCAAGA CAACACCGTC AACCATTTTC ATGATACGCT CAACTTCTCC      2460

ACCAAAGTCC GCGTGTCCTG GTGTGTCCAT AATGTTGATA CGAGTTCCGT TGTAAGCAAC      2520

GGCAGTATTT TTAGCAAGGA TGGTAATTCC ACGCTCTTTT TCGATATCGT TTGAGTCCAT      2580

AGCACGCTCT GCCAATTCAG TCCGTGCATC AAGCGTTTCT GATTGTTTCA ATAATTCGTC      2640

AACCAGGGTT GTTTTACCGT GGTCAACGTG GGCGATAATC GCAATGTTAC GGATATCTTC      2700

TCTTAATTTT GTCATGATTT CCTCTATAAT ATTCAAAATT TATTTTCTAA CTGAACGATT      2760

ATACCATAAT TTCAAATAAA TAACATAACT CAAGCAAGTG TAAATGTTTT CACTCTGCTT      2820

TTCTTTTCAC GTCAAGCCTT TTCAAAGCGA GCGACTTATG ATAAGATAGG CACAGTATGC      2880

GTTTAGATAA TTTATTAGCT CAAGAAAAAA TCAGCCGAAA GGCCATGAAG CAAGCACTCC      2940

TCAGAGGGGA AATTCTAGTC GATGGTTGCC CAGCCCGCTC CCTAGCTCAA AATATCGATA      3000

CAGGACTACA AGAACTCCTT TTTCAGGATC GAATCATTCA AGGCTATGAA CACACCTATC      3060

TTATGCTTCA TAAACCTGCT GGTGCCGTTA CAGCCAACAA AGACAAGGAA CTTCCGACCG      3120

TCATGGACCT GCTTCCATCT AACATCCAGT CTGACAAGCT CTATGCCGTT GGCCGACTGG      3180

ACCGAGATAC AACGGGACTC CTCCTCTTGA CCGATAACGG TCCCTTGGGC TTTCAGCTCC      3240

TCCATCCCCA ATATCATGTC GATAAGACTT ACCAAGTTGA GGTTAATGGA CTTCTAACAC      3300

CTGACCATAT CCAAACCTTT CAAAAAGGAA TTGTCTTTTT AGATGACACT GTCTGTAAAC      3360

CCGCAAAACT AGAGATTCTA TCTGCAAGTC sCTCCCTCAG TCAAGCCTCT ATCACCATTT      3420

CAGAAGGAAA ATTTCATCAA ATCAAGAAAA TGTTCCTCTC GGTTGGTGTT AAGGTGACTA      3480
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1232

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GCCTCAAAAG AATCCAATTT GGGGACTTCA CATTGAACCC AGATTTAGCA GAAGGTAACT        3540

ACCGCCCTTT GAACCAAAAA GAGTTACAAA TCATTAAAAA CTATTTAGAG ATGAGTCGAT        3600

AAAACAAAAA AAGCTTTAAA ACTAAAGCTT TTTTCTTTTA TTTACCGAAA AATTAAGGCG        3660

ATTGCTACAA TCCAGTTAAC TACAGAAATC ACAATTCCTA AGATATTAAG AATCTTTTCT        3720

ATTTTATAGT CTAATTGTGA CTCTTTTTGG TATGAAATAG CCAAGACCAA TCCTATGATA        3780

CCCAAAATCA GGCCTACAAT TGGAAATAAC AAACCAAGAA TAATCGACAA GATACCCACA        3840

AAAAGTGGAT TTTTCTTCTT TTCTTTTATG TTCTAAGAAC TCCTTAAATT TTATACAAAT        3900

TAATTATACT ATAAAACAAT AGCTTCATCC TATCATTCGA CTAATTTGGA AATAAGGTTA        3960

GCTAGTCTTC ACTTTCCCTT TCCAAGAATC CAAGCCATAA GAAAGGATAT AAATCTCAGA        4020

AAAACCTTGT TTTTTCAAGT AAAGAGCTGC ATTTGTAACT CGTTGCGCAC GTTGGTTTTC        4080

GTAGAGAAGG ACAGGTTTAT CTTTACGAAG GGCTGCAAGA CTAGTTTTCA ACTGACTTGA        4140

AGGAATATTG CGTGCACCAA GGATATGTTT TCTGTGGAAT TCTGCTGGGT CGCGCAAATC        4200

AATCAATTGA CCCGTACGAA TCAAGGCTTC AAACTCCTCA TTGTCCACAA TTTTTAGCCGC       4260

ACGGCGAATA CGAAGATAGT TAAAGCCCAT CCACGCCAAC ATTGCTAGTA TAAGTGCCCA        4320

CAAAATCCAA GTAACCATTA GTTCTTTTCT CCATTTTTCT CAATATAATC CAATTCTACC        4380

TTGTGCTCTC TGCGAAGAAC TGCTTCTGCC TCTAGATAGT CTAATTTATC CATCAACCCT        4440

GCATCGTAAA TCCGAGATAG TTCCAACTTC ATCAGTTCAA TATCATATAA GCGTTTTCCC        4500

ATGTAAACAA TAATACCAAA TCGTTTGAGG AATTGCTGCA CATCATAGAA TGTTTTCATA        4560

AGACTCATTC TAGCAAAATT TTGTGTTTTT TTCAAGAAGA GACTCACACA ATGCTCCTTA        4620

TTTTCCTATC TTCTTTAGCG ATTCTAAGGC AAGTATGGTA CAATAAAAAC ATGGGGATTC        4680

AACAATTACA TT                                                          4692
```

(2) INFORMATION FOR SEQ ID NO: 221:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 706 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 221:

```
GCTAAAAAGC TGATAATCTT CGACTCCTGT ATATGATGTG TCTTTTCATG TAAGACACGC         60

GCCGCCAGAA TCATGGCAAG AGCTGCAAGA CTGGCAAGTA AGAAGCCGAT AAGATAGGCA        120

AAAAGATAAG TGAATTTGAC AAAGAAAGTC AAAAGAACTA GGAAACCAAA GCCTCCTCCA        180
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1233

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AAAACTACCA AAGTCTTTCG TAAATCCCAG ATTTTATCCA ACTGCTTGAC GAGGGAAGTC        240

GTCTGACGAA CGCCTACAAT AGTTGCTAAC ATACTTCCTA AAAAGAATGG ATAGACATGA        300

GTTAAACTGG AGAAATAAAC AGAGGAATAA GAGGTCACTA GAAAACTACC AATAAACATG        360

GAGAAGAAAC TGATCAAGAA GGCAACAGCA GATAAGAGAA AGACCATCCC CTTCAACTGA        420

CCATTTGATT TAGCTTGTTT GGATAAGAAC CAAACTGCCA ATCCCCAAAG AATATAGTAG        480

TGAACCTCAA CTGCCAAACT CCAATTATGA ACAAACAAAT GAGGAATGAA CTGAGATTCA        540

TAACTCCCAC CTGTTAGGAG TTCATAGAAG TTGGTCATAA AGCCTAAGAC GCCCGCAATC        600

TGGCCACCAA TTCCAGCAAC ATAGTCTTGG CGAACCAAGA AAGTAAAAGG CATGGTCACC        660

AAGACCATCA AAACCACAGG TGGCACAATC TCGATAAAAG CGTCTT                       706
```

(2) INFORMATION FOR SEQ ID NO: 222:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3236 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 222:

```
CAGCTGATGG GCAATATCAG TCATAGAAAT TTTTTCAATT AACTTTTGAG CAATTTTTTG         60

GTTGATGATA CGAGGGATTT GGTGATTTTT CTTTACCAGG GGAGTCTCAG CAACCATCAT        120

TTTTGAACAG TGATAGCACT TGAAACGGCG TTTTCTAAGG AGAATTCTAG AAGGCATACC        180

AGTTGTTTCG AGGTAAGGGA TCTTAGACGG TTTTTGAAAG TCATATTTCT TCATTAGACT        240

TCCACAATCA GGGCAAGATG GAGCCTCATA ATCCAGCTTA GCGATAATTT CTTTGTGGGT        300

ATCCATATTG ATGATATCTA GAATCTTGAT GTTTGGGTCT TTAATATCGA GCAGTTTTGT        360

GATAAAATGT AATTGTTCCA TATGATTCTT TCTAATGAGT TGTTTTGTCG CTTTTCATTA        420

TAGGTCATAT GGGACTTTTT TTCTACACAA AAATAAGCTC CATAATATCC ATAGGGGATT        480

TACCCACTAC AAATATTATA GAGCCCGAAA ATATGGGAAA ACTGATCCTT GTTTCTGCTT        540

TTGTCTATAG AAGAATAATA AAGATTATCT TCTTCAAATT CTCCGATATT CTCTAAAGTT        600

TTGTGCAAGT TGCACAGAAC TTGTTTATTT TTTTGGTCAT CTTGCCATAG AAATATAAAG        660

CGTTTTCATA TATAATATAA TTATCAAAAG ACAAAAGGAG TTCACCTCAT GGTAGAATTG        720

AATCTTAAAA ATATTTACAA AAAAATATCCA AACAGCGAAC ACTATTCAGT TGAAGATTTC        780

AACTTGAACA TCAAAGATAA AGAATTTATC GTTTTCGTAG GACCTTCAGG ATGTGGTAAA        840
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1234

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TCAACTACAC TCCGTATGAT TGCTGGTCTT GAAGACATTA CAGAAGGTAC TGCATCTATC    900

GATGGCGTAG TTGTCAACGA CGTAGCTCCA AAAGACCGTG ATATCGCCAT GGTATTCCAA    960

AACTACGCTC TTTACCCACA CATGACTGTT TATGACAACA TGGCTTTCGG TTTGAAATTG   1020

CGTAAATACA GCAAAGAAGA CATTAACAAA CGTGTTCAAG AAGCAGCTGA AATACTTGGA   1080

TTGAAAGAAT TCTTGGAACG TAAACCAGCT GACCTTTCAG GTGGTCAACG TCAACGTGTT   1140

GCCATGGGGC GTGCGATTGT CCGTGATGCG AAAGTATTCT TGATGGACGA ACCTTTGTCA   1200

AACTTGGATG CCAAACTTCG TGTATCAATG CGTGCTGAAA TCGCTAAAAT TCACCGTCGT   1260

ATCGGAGCTA CAACTATCTA TGTAACTCAC GACCAAACAG AAGCGATGAC ACTTGCAGAC   1320

CGTATCGTTA TTATGTCAGC TACTAAGAAC CCTGCTGGTA CAGGTACTAT CGGACGTGTA   1380

GAACAAATCG GTACTCCTCA AGAAGTTTAC AAAAATCCAG TTAACAAATT CGTTGCAGGA   1440

TTCATCGGAA GCCCAGCTAT GAACTTCATC ACCGTGAAAT TGGTTGGTAG CGAAATTGTT   1500

TCTGACGGTT TCCGTTTGAA AGTGCCAGAA GGAGCATTGA AAGTTCTTCG TGAAAAAGGC   1560

TACGAAGGAA AAGAATTGAT CTTTGGTATC CGTCCAGAAG ACGTGAATGC AGAACCTGCT   1620

TTCCTTGAAA CATTCCCAGA CTGTGTTGTA AAAGCGACTA TCTCTGTATC AGAACTGCTT   1680

GGTTCAGAAT CTCACCTTTA CTGTCAAGTT GGTAAAGACG AGTTTGTTGC AAAAGTTGAT   1740

GCTCGTGACT ACTTGCAAAC AGGTGCAACA GTTGAGCTTG GATTTGACTT GAACAAAGCA   1800

CACTTCTTCG ATGTAGAAAC TGAAAAAACA ATCTACTAAA ATAAATAAAA TTCAAAGCAC   1860

TACAAGAAAA GATATCTCTT TATCAATTGT AGTGGAGAGA TATCAGTTAA TCTAGGGAGA   1920

GAAACAAAAT GCTTCTCTCC TTTTTGCTAG AGAAGTCATA TTATGCATCT ATATTGTGAT   1980

GCTCTTTAAT ACTCTTCGAA AATCTCTTCA AACCACGTCA ACGTCGCCTT GCCGTACGTA   2040

TGATTACTGA TTTCGTCAGT TTTATCTGCA ACCTCAAAGA TGTACTTTGA GCAGCTTACG   2100

GCTAGTTTCC TAGTTTGCTC TTTGATTTCC ATTGAGTATT ATTTGTGGGT ACCATCTACA   2160

AGTGAAGCTA TATGCGTAAA CTACGTGAGC AATTGAATTC GAACTAGAGA GGTAATAATA   2220

AATTTATGCT ATAGTTATGG TGACTTGTAT GCTTTTGATT CTAGTTTATC AAATAATAGA   2280

TTAGAATTGT CAGATAATAT CATTTTGTGT TATAATGAAG AAAAAACAGA GGTGTTCAAA   2340

TGTCAGAAGC AGGTCATAAG TTTTTAGCAA AATTGGGGAA AAAACGCTTA CGTCCAGGTG   2400

GAAAGCGTGC CACAGATTGG TTAATTGCAG AAGGAGGATT TTCAAAAGAA AAGAGAATAC   2460

TAGAGGTTGC GTGTAATAGG GGAACTACAG CAATTGAGTT GGCACAGCGT TTTGGTTGCA   2520

AGATAACTGC TGTTGATATG GATGCTCAAG CTTTAGAAGT GGCTAAAAAA TCTGCTGGAA   2580

CGGCAGGTGT TGCTCATTTA ATCAGTTTTG AAAGAGCAAA TGCAATGAAA CTTCCTTATC   2640
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1235

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AAGATGCTAG TTTTGATATT GTTATAAATG AAGCTATGCT GACTATGCAA GCCGATCAAG    2700

CTAAGAAAAA ATGTGTAATG GAATATCTAA GGGTATTAAA ACCTGGAGGT CTTCTCTTGA    2760

CACATGATGT GCTTCTTAAG GAAGCTAAAG AGTCTATCAG ACAGGAATTA TCACAAGCAA    2820

TTCATGTAAA TGTAGGTCCT TTAACTCAAG ATGGTTGGGA ACAGGTGATG ATAGAATCAG    2880

GTTATTGTGA TGTGAAAGCA TTGACTGGTG AAATGACATT AATGAAATTA TCGGGTATGA    2940

TTTATGACGA AGGTTTGCTA GGAACTTTGA AAATTTGTGT AAATGCTTGT AAAAAGGAGA    3000

ATAGAAAGCA GTTTTTAACT ATGTATAAAA TGTTTGCTAA GAATAAACAG AAAATTGGGCT   3060

TTATTGCGAT GGCTAGTTAT AAATCGTCAA AACGTTAGAT AATTATTGAA GTTAACTTTT    3120

CCTTTTTTCT TTCTTAAAAA ATATGCTATA ATAGAGAGTA AAAAACTTTG AAAGAAAGAA    3180

AAAGATGAAT TTAAAAGATT ACATTGCAAC AATTGAAAAT TATCCAAAGG GTACCG        3236
```

(2) INFORMATION FOR SEQ ID NO: 223:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2885 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 223:

```
CCTGACTTTT CAAATTGGTT AGTTTGCCAC ACTTGGTTTA TATGGTCGTG GAAAGCATGG     60

CTATTACTTC TCAAAGGGCG ATTTCTCACC CCATGAAAAG TGTCTATTTT TGTTTAGGTT    120

TGTAAGTTAA TTCATTGTCA CATATTACTC TTTAACTGAT TGAGTGAGTA CCGCTTATAT    180

TTGATGCCAA ACGCCTTAAA AGTGTTACCC TCAAGTCCTT TTAGAATACG GCTATAATTC    240

CGCTCATTGT AAACTATCTT AAGCTCATCA CTATCTAGGT TGGTATTAAA AATGGTATTT    300

TCACGATTGT TTAGCACGTC AAAGAGTAAA TCCTGCTCCC AGTCACTCTT AGGCTTAATA    360

ACAGCATTTT TTGCTCCTAA ATCATCAATA ATTAAGTAAT CAACAGACTT CATGAGTTCA    420

GTAGCTTCAA ACTCTGTAAG TGTTGCACCT TTACCATAAT TCCACCCCTC TTTAATTTGT    480

TTGATCATTT CGGTTAGGCT TACAAAAAGC ACACTCTTAG GTTCTCCTTT TGTCTTATAC    540

CCCTCATTTA TACCTTTGGC AATAGCAACT GATAAAAGTG TTTTTCCAAT CCCTGTACCT    600

CCTGTGATAA GCGTATTTCC CCTCATGCCA TCAAGATATT TTTGTACCTG ACCTTTTGCA    660

AATTCTAAAA ATCGCTTTTC TTCTGATGTT ACAGCATTAA AATCATCAAA AGTTTTAGTT    720

TTAAACTCAT CTGCTACATA GCTCTTATTG CTCATCAACA CATTATAAGT TTGCATATAT    780
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1236

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AGTTTAGCAT  TCAAATTATC  AGCAATCGCA  TCTTCTTCAT  CTTGCTTTTT  CTGTTCTTCT     840

TGGCATTGTT  CACAATAGGG  TGGGATACAG  CGAACTTCTT  TTATTGCCTC  TCCGTTCTCA     900

TTCCACCCCA  CTACTACATG  TCTTTCTCCT  TTGATTTGTG  TTAGCTGTAT  TTCATGCTTA     960

GGACACAATT  CGTCTAGTTT  AAATGTCTCA  ATATTTCCTA  AACTAGATTG  TAATGATTTC    1020

ATTTTCTGAC  CTCCTAAAAT  GGTTTTTCTT  GTGTTGGTAT  CCAATCTTCA  TAGCTGGTAG    1080

GCTCTAGTTG  ATTGGTTTGC  TGTTTTTTAG  CCTCACGCGC  TGCCCTGCTA  TTTCTAACAA    1140

GTTCCACCGT  CAATAAATTG  TCCTGTTTCC  AACGGTTAAG  GATTACCTTG  ATGTATGCAA    1200

AGTTTGCTTT  ACCCTGACTG  ACAGCCTCTT  TTAACGCCTC  ATGGATAAGC  TCTGGGCTAA    1260

AATCTTCTAG  CATATACTGC  AATTCTTGAA  TCTGTAACGG  TGACAATGCT  TTACCTGTCT    1320

CAGCTCGCTT  CATATTCAAC  AAGTCGTCTA  TTTCCACACT  GGTTACTTTT  TTATTTACAA    1380

AATCAGAAAT  CAGTTGAAAA  ATGTTTGGAC  TTTGTAGCTG  GATTTCAGCC  ATTACCTCAT    1440

CAAATTCTGC  TTGTGTCATG  TTGTCTAAAT  CTAGTGTCAT  TGCATTGCCT  CCTCAAACTT    1500

CTCTATAAGA  CAACTTTTAT  TTGCTTTCTG  AGTTCCATTT  TTAGAGTTAA  AAAGAATATC    1560

TTTTAAGGTT  ACAGTAGCCT  CTAAATACTC  CTTTTCAGCA  TGCTCTATAT  ACGCCTGTTG    1620

CTCTGCTTCG  TTCTCAAAAA  AGTGCTTAGC  TTGGCGTTTA  AAGAATGCTT  TTCGCATAGC    1680

GTCCATTTCA  AAAATACCAG  GGGCGAAAAA  CATTCCCGTA  GTGCTTTTAG  AGACCGCTTC    1740

GATTTTATGG  CTTTCATTCA  ATTCAGGAAG  TTCAATCCAA  AGTAAACGGG  ACAACTCATC    1800

TTTGATGGAT  TTTGTCTGAC  TTTCCAATAA  AGAAAGGATT  CTTAGGCCAT  TTTCTTCGCT    1860

AATTTCTCGC  ATTTCTGCGC  TAATTCTGTC  TATACGTCTA  GTTAAATTCT  CATATGTTGT    1920

TTCTGTCATG  TTTTTACCTC  TGTTTCTTTG  TTGGTGTGAT  TTTTTAGCTT  ATTTTTTTAC    1980

TTCTAAACAT  CATTGTCTTA  ATTTCCTGAT  AACTCATTTT  CAATTCAATC  ATAGCTATTG    2040

CCATATCCTC  AAATGCCTGG  TACTGCTCCA  ACTCCTCACT  AGTCAAGCTA  TCGATACCGT    2100

TATAGCCCCC  ACGCTCTTCT  CTTAACTGCT  TAGCGTTCAT  GTCTGTTACT  GCCTTTAGTA    2160

GCAAGTTGTT  CATGGTGCTA  TGCGCGTGCT  TTGGTGCATT  AGGCCATGTT  TCTATACTGT    2220

CATGCAAGGT  TTTTCTTTTC  GGTTTTTCTA  GCGCCCTCTG  CAGACGAATT  TCAGAAAGTT    2280

CCTCACGCAT  TTCAAAGAAT  GCTTTGACTA  GGTTTAGTTT  GAATTGCCGT  ACTGTTTCGG    2340

TATTCTTTAA  ATAAGTGATC  AGAAAAGTAG  CCTGTTGCTC  GTTCAGAATA  TAGGATTTTT    2400

TAGGTTGTCC  TCTAGTATCT  AATTTATGGA  TTTTAAATCC  AAGTATTCCC  AACTCTTCAA    2460

AGTCAGCCTT  ATTTTCTCTT  ATTAAGCGCG  TGATAGTGTG  GTGTTGTACT  TCAGCACATT    2520

CAGCGATGAT  CTCGCTTGTG  GTGTACGGCT  CTTTCTTACC  GTCCATGTAA  ACTAGTTCCA    2580
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1237

TTACGGTTCT ACCTCCTGTA TAAATCTGGT TAGCTTACTT TTTAATTGCC TCCTCTAGCC   2640

TCTTTTTTAG CCTCTAAAAC GGCTTTGGCT AGTGGTTAAT ATTATTTACC ACTTGTCTCT   2700

ATAAACGTGT TAGAGGCCTT TATAACGACT TGTATCGCTG TATCGATATC CTCCGTGGAA   2760

TAGTAGATTT ATTTTCTAAT ATCATTCAAG ACTTGTTTAA CCCATTTCTT GAAAGAAATA   2820

AAATTACATC TTCTTTATCC TTGGCATCTG CTTTGTCTGA GACAAATTAG AATGTCAATA   2880

CTTGG   2885

(2) INFORMATION FOR SEQ ID NO: 224:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 3144 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 224:

TATCAATCCT TTCCCATTAT AGGAGCAACA GAGTGGGAGT AGTCATCTAA GGACTAATTT   60

ATGTATTTTT ACGAGTCAGT ATCTTGGGAT ACTGGTTTTT ACTTTTCTAG ACTTTTTGAC   120

TACTTGTTAA AACTGGGATA ATTTTCGACT GTTTAACAGT TATTATGCAA AGTCTAAAAG   180

ATTAGAATTG TCAAACAAT CCGTCTAGGC TTGATTTTAT CCTTTATTTA CTATAAAATG   240

AGAAGGAAAA ATGTCAAACT TTTATATTGC AAATAGGAGA AATCATGACA AAAACATTAA   300

AACGTCCTGA GGTTTTATCA CCTGCAGGGA CTTTAGAAGA GCTAAAGGTA GCTGTTCAGT   360

ATGGAGCAGA TGCTGTCTTT ATCGGTGGTC AGGCCTATGG TCTTCGTAGC CGTGCGGGAA   420

ACTTTACTTT CGAACAGATG GAAGAAGGCG TGCAGTTTGC GGCCAAGTAT GGTGCCAAGG   480

TCTATGTAGC GGCTAATATG GTTATGCACG AAGGAAATGA AGCTGGTGCT GGTGAGTGGT   540

TCCGTAAACT GCGTGATATC GGGATTGCAG CAGTTATCGT ATCTGACCCA GCCTTGATTA   600

TGATTGCAGT GACTGAAGCA CCAGGCCTTG AAATCCACCT TTCTACCCAA GCCAGTGCCA   660

CTAACTATGA AACCCTTGAG TTCTGGAAAG AGCTAGGCTT GACTCGTGTC GTTTTAGCGC   720

GTGAGGTTTC AATGGAAGAA TTAGCTGAGA TCCGCAAACG TACAGATGTT GAAATTGAAG   780

CCTTTGTCCA TGGAGCTATG TGTATTTCAT ACTCTGGACG TTGTACTCTT TCAAACCACA   840

TGAGTATGCG TGATGCCAAC CGTGGTGGAT GTTCTCAGTC ATGCCGTTGG AAATACGACC   900

TTTACGATAT GCCATTTGGG AAAGAACGTA AGAGTTTGCA GGGTGAGATT CCAGAAGAAT   960

TTTCAATGTC AGCCGTTGAy ATGTCTATGA TTGACCACAT TCcAGATATG ATTGAAAATG   1020

1238

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GTGTGGACAG TCTAAAAATC GAAGGACGTA TGrAGTCTAT TCACTAyGTA TCAACAGTAA    1080

CCAACTGCTA CAAGGCGGCT GTGGATGCCT ATCTTGAAAG TCCTGAAAAG TTTGAAGCTA    1140

TCAAACAAGA CTTGGTGGAC GAGATGTGGA AGGTTGCCCA ACGTGAACTG GCTACAGGAT    1200

TTTACTATGG TACACCATCT GAAAATGAGC AGTTGTTTGG TGCTCGTCGT AAAATCCCTG    1260

AGTACAAGTT TGTCGCTGAA GTGGTTTCTT ATGATGATGC GGCACAAACA GCAACTATTC    1320

GTCAACGAAA CGTCATTAAC GAAGGGGACC AAGTTGAGTT TTATGGTCCA GGTTTCCGTC    1380

ATTTTGAAAC CTATATTGAA GATTTGCATG ATGCTAAAGG CAATAAAATC GACCGCGCTC    1440

CAAATCCAAT GGAACTATTG ACTATTAAAG TCCCACAACC TGTTCAATCA GGAGACATGG    1500

TTCGAGCTCT TAAAGAGGGG CTTATCAATC TTTATAAGGA AGATGGAACC AGCGTCACAG    1560

TTCGTGCTTA ATGTAGTTGT TTAGTTTTAA AAAACTATGC AAAGCTCCAT ATACAACACT    1620

TAAACGAGAT TAAAGAATGG CGAAATCCCT TGATGCGCAA GAGATTAGCT GTCTTTTTTA    1680

TTTTTTAAGT GATAAAGTCG GAGTTTAGGC ATCAAAGCCT ATCAAATTAA ACAAAGAAGC    1740

GATGTCTTAG ATATTTTGAA AAAAATTAAT AAGCAGAAAA CTCTCTATTA TTTTGTTGTA    1800

GAGAGTTTTT TGTTAATAAA ATTTCACAAA ATGACATTTA TATATTGCAT TAAGTTAGAT    1860

ATATGATATA ATATTGTTAA AAAGAGGCGC AACTTTTTAA AATTAATGAG AATCAAAGAG    1920

AAAACCAATA ATATTAATGG AGGAATAAAA AATGTAAGTA AGCATTATGG TCATTCAATC    1980

ATTCTCAAAG ATATAAATTT TGCACTTAAC AAGGGTGAAA TTGTTGGTCT AGCAGGGAGA    2040

AATGGAGTTG GTAAGAGTAC GTTGATGAAA ATTCTTGTTC AGAATAATCA ACCGACTTCA    2100

GGTAATATTA TAAGCAGTGA TAATGTTGGG TATTTAATCG AAGAACCAAA ATTATTTTTA    2160

TCTAAAACAG GTTTAGAGAA TTTAAAAATAT TTGTCAAATT TATATGGTGT TGACTACAAT    2220

CAAGAAAGAT TTAGATGTTT GATCCAAGAG TTAGATTTGA CTCAGTCTAT TAATAAAAAA    2280

GTAAAGACCT ATTCTTTGGG TACAAAACAA AAATTAGCTT TGCTTCTAAC TCTCGTTACG    2340

GAACCTGATA TATTGATTTT AGATGAACCG ACTAATGGTT TAGATATTGA ATCATCACAA    2400

ATAGTTTTAG CGGTTCTAAA AAAATTAGCT TTACATGAAA ATGTGGGAAT TTTAATATCG    2460

AGTCATAAAT TAGAAGACAT TGAAGAAATT TGTGAGAGAG TTCTTTTCTT GGAGAACGGG    2520

CTTTTGACAT TTCAAAAAGT AGGAAAAGAT AGTCATAATT TCTTGTTTGA GATAGCTTTT    2580

TCATCAGCTA CAGATAGAGA CATTTTCATT ACCAAACAAG AATTTTGGGA TATTGTTTAG    2640

GAAGAGGGAT TGAGAATTAC TATGTCTGGG AATATTCAAA ATAGTGAGCT TTTTAAATTT    2700

TTTAACGAAA ACTCTATTAA AGTAGTTGAT TTTGAAACTA AAAAAGAGAC GCTTAAAGAT    2760

ATTTACCTAA ATCGTTCAAA ATAAAGGAAG GTTATAATCA TGAAATTAAA TAAACAGAAG    2820
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1239

AATCGGATGA TTTACGTCTT GTCTAATTTT CTATATGCTA TCTCAGTTTC CATTATTTAT   2880

GCTTTGAATG GCATTGTGTT ACTAGTCATA GTAAGTAAAT TGGGTATTCC AGGTGATTTA   2940

GGATTAAATT TTATAGTAGC TATTGTAGTC AATACAATTT TGTTAGTCCT GTTTTATTTT   3000

CTATTATCTT ACATTTTCTA TTTATACAAA TTGAAAAGTG GCTTGGTATw TGGTATTTTA   3060

GTAGCTTTAC TACTCTTTAT CTCTAATATA TTAAATACGA TGATGATGAA TACTAGTAAT   3120

GATTTGTTTA TCAAAGCAAT TGAA   3144

(2) INFORMATION FOR SEQ ID NO: 225:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3766 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 225:

TACGGTATTA TTTTTAAGGA GAAAGAATCA TGAAAATCAA AAAATGGCTT GGTCTAGCAG   60

CCCTTGCTAC AGTCGCAGGT TTGGCTCTTG CAGCTTGCGG AAACTCAGAA AAGAAAGCAG   120

ACAATGCAAC AACTATCAAA ATCGCAACTG TTAACCGTAG CGGTTCTGAA GAAAAACGTT   180

GGGACAAAAT CCAAGAATTG GTTAAAAAAG ACGGAATTAC CTTGGAATTT ACAGAGTTCA   240

CAGACTACTC ACAACCAAAC AAAGCAACTG CTGATGGCGA AGTAGATTTG AACGCTTTCC   300

AACACTATAA CTTCTTGAAC AACTGGAACA AAGAAAACGG AAAAGACCTT GTAGCGATTG   360

CAGATACTTA CATCTCTCCA ATCCGCCTTT ACTCAGGTTT GAATGGAAGT GCCAACAAGT   420

ACACTAAAGT AGAAGACATC CCAGCAAACG GAGAAATCGC TGTACCGAAT GACGCTACAA   480

ACGAAAGCCG TGCGCTTTAT TTGCTTCAAT CAGCTGGCTT GATTAAATTG GATGTTTCTG   540

GAACTGCTCT TGCAACAGTT GCCAACATCA AAGAAAATCC AAAGAACTTG AAAATCACTG   600

AATTGGACGC TAGCCAAACA GCTCGTTCAT TGTCATCAGT TGACGCTGCC GTTGTAAACA   660

ATACCTTCGT TACAGAAGCA AAATTGGACT ACAAGAAATC ACTTTTCAAA GAACAAGCTG   720

ATGAAAACTC AAAACAATGG TACAACATCA TTGTTGCAAA AAAAGATTGG GAAACATCAC   780

CTAAGGCTGA TGCTATCAAG AAAGTAATCG CAGCTTACCA CACAGATGAC GTGAAAAAAG   840

TTATCGAAGA ATCATCAGAT GGTTTGGATC AACCAGTTTG GTAATAAGAA ACAGGGAGGT   900

GGGAGAGAAA ATTCCACCTC TTGCTTTTGT ATAGAGTATA GATTGTAAAG AAGACTATTC   960

GTTCATAGAA AGGTAGAGAG AATATGGTTT TTCCTAGCGA ACAAGAACAG ATTGAAAAAT   1020

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                                    1240
TTGAAAAGGA TCATGTAGCC CAGCATTATT TTGAGGTTTT GCGTACCTTG ATTTCTAAGA    1080

AATCAGTCTT TGCCCAGCAG GTTGGACTCA AGGAAGTCGC AAATTATCTG GGTGAGATTT    1140

TCAAGCGTGT TGGAGCTGAA GTGGAGATTG ATGAGAGCTA TACAGCGCCC TTTGTCATGG    1200

CACATTTCAA GAGTTCGCGT CCAGATGCCA AGACCTTGAT TTTCTATAAC CACTATGACA    1260

CTGTGCCAGC GGATGGGGAT CAGGTCTGGA CAGAGGATCC kTTTACGCTT TCGGTCCGCA    1320

ATGGCTTCAT GTATGGGCGT GGGGTTGATG ACGACAAGGG TCATATCACA GCTCGCTTGA    1380

GTGCTTTGAG AAAATATATG CAGCACCATG ATGATTTACC TGTCAATATC AGCTTTATCA    1440

TGGAGGGAGC GGAGGAATCG GCTTCAACAG ACCTAGATAA GTATTTGGAA AAGCATGCAG    1500

ACAAACTCCG TGGGGCGGAT TTGTTGGTCT GGGAACAAGG GACCAAAAAT GCCTTGGAAC    1560

AGCTGGAAAT TTCTGGTGGC AATAAGGGGA TTGTGACCTT TGATGCCAAG GTAAAAAGCG    1620

CTGATGTGGA TATCCACTCG AGTTATGGTG GTGTTGTGGA ATCAGCTCCT TGGTATCTCC    1680

TCCAAGCCTT ACAGTCTCTT CGTGCTGCGG ATGGCCGTAT CTTGGTTGAA GGCTTGTACG    1740

AAGAAGTACA AGAGCCCAAT GAACGAGAAA TGGCCTTGCT AGAAACTTAT GGTCAACGAA    1800

ACCCAGAGGA AGTTAGTCGG ATTTATGGAT TGGAGTTGCC TCTCTTACAG GAGGAGCGGA    1860

TGGCCTTTCT AAAACGTTTC TTTTTCGATC CAGCGCTTAA TATCGAAGGA ATCCAGTCTG    1920

GTTATCAAGG TCAGGGTGTT AAGACTATTT TACCTGCAGA AGCCAGTGCC AAGCTAGAGG    1980

TTCGTCTGGT TCCGGGCCTA GAACCGCATG ATGTTCTGGA AAAAATTCGG AAACAGCTAG    2040

ACAAAAATGG CTTTGATAAG GTAGAATTAT ACTATACCTT GGGAGAGATG AGCTATCGAA    2100

GCGATATGAG CGCACCAGCC ATTCTCAATG TGATCGAGTT GGCCAAGAAA TTCTATCCAC    2160

AGGGCGTTTC AGTCTTGCCG ACGACAGCGG GGACAGGACC TATGCATACG GTCTTTGATG    2220

CCCTAGAGGT ACCAATGGTT GCATTCGGTC TAGGAAATGC CAATAGCCGA GACCACGGTG    2280

GAGATGAAAA TGTGCGAATC GCTGATTATT ACACCCATAT CGAATTAGTA GAGGAGCTGA    2340

TTAGAAGCTA TGAGTAGAGA TATTATCAAG TTAGATCAGA TCGATGTGAC TTTTCACCAA    2400

AAGAAGAGAA CCATCACAGC GGTTAAGGAT GTGACCATTC ACATCCAAGA AGGGGATATC    2460

TACGGAATCG TTGGATATTC TGGAGCAGGA AAATCAACCC TTGTACGGGT GATTAATCTC    2520

TTGCAAAAAC CATCTGCAGG GAAAATTACC ATTGACGACG ATGTGATTTT TGACGGCAAG    2580

GTGACCTTGA CGGCAGAGCA GTTGCGTCGT AAACGTCAAG ATATCGGAAT GATTTTCCAG    2640

CATTTTAACC TGATGAGCCA AAAGACAGCA GAGGAGAATG TAGCCTTTGC CCTTAAACAC    2700

TCTGAACTCA GCAAGGAAGA AAAGAAGGCT AAAGTAGCTA AGTTGTTGGA CTTGGTTGGT    2760

TTGGCAGATC GTGCTGAAAA CTACCCTTCA CAACTATCTG GAGGGCAAAA ACAGCGTGTG    2820
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1241

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GCAATTGCGC GTGCCTTGGC CAATGATCCA AAAATCTTGA TTTCAGACGA GTCAACTTCT      2880

GCCCTTGATC CGAAGACAAC CAAGCAGATT TTGGCCTTGT TGCAAGATTT GAACCAAAAA      2940

TTAGGCTTGA CTGTTGTCTT GATTACGCAT GAAATGCAGA TTGTCAAAGA CATTGCCAAC      3000

CGTGTTGCAG TTATGCAGGA TGGGCATTTG ATTGAAGAGG GTAGTGTGCT TGAAATCTTC      3060

TCAAACCCTA AACAACCTTT GACTCAAGAC TTTATCTCAA CAGCTACAGG TATTGACGAA      3120

GCCATGGTCA AAATCGAGAA GCAAGAAATC GTGGAACACT TGTCTGAAAA CAGTCTCTTG      3180

GTGCAACTCA AGTACGCTGG AGCTTCAACA GACGAGCCAC TTTTGAATGA ATTGTACAAG      3240

CATTACCAAG TAATGGCTAA TATTCTCTAT GGGAATATCG AAATTCTCGA TGGTACTCCT      3300

GTTGGAGAAT TGGTGGTGGT TTTGTCAGGT GAAAAAGCAG CGTTGGCAGG TGCCCAAGAA      3360

GCCATTCGTC AAGCAGGTGT ACAACTAAAA GTATTGAAGG GAGTACAGTA AGATGGAATC      3420

ATTGATTCAA ACCTATTTAC CAAATGTCTA TAAGATGGGT TGGGCTGGTC AGGCAGGCTG      3480

GGGAACGGCT ATCTACTTAA CTCTTTATAT GACAGTTCTT TCCTTCATTA TCGGAGGCTT      3540

CTTGGGGCTA GTGGCAGGTC TCTTTCTCGT CTTGACAGCG CCAGGTGGTG TCTTGGAGAA      3600

TAAAGTCGTA TTCTGGATTT TAGACAAAAT TACCTCAATT TTTCGTGCGG TTCCCTTTAT      3660

CATCCTCTTG GCAATCTTGT CACCACTTTC TCACTTGATT GTTAAAACAA GTATCGGGCC      3720

AAATGCAGCC CTTGTCCCAC TTTCTTTTGC AGTCTTTGCC TTCTGG                     3766
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(2) INFORMATION FOR SEQ ID NO: 226:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2520 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 226:

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TGTTGCTGAG TTAATCGGTA CGTTCATGTT TGTATTCGTC GGGACAGGAG CTGTTGTTTT        60

TGGAAATGGT CTTGATGGCC TTGGTCACCT TGGAATCGCC TTTGCCTTTG GTTTGGCAAT       120

CGTGGTGGCA GCCTACTCAA TCGGAACTGT TTCAGGTGCT CACTTGAACC CGGCTGTTTC       180

GATTGCTATG TTTGTAAACA AACGTTTGTC ATCTTCAGAA CTTGTAAACT ACATCCTTGG       240

TCAGGTTGTT GGAGCTTTCA TCGCTTCTGG CGCTGTCTTC TTCCTCTTGG CTAACTCAGG       300

TATGTCAACT GCTAGTCTTG GTGAAAATGC CTTGGCAAAC GGTGTCACTG TCTTTGGTGG       360

TTTCTTGTTT GAAGTCATCG CAACTTTCTT GTTTGTATTG GTTATCATGA CTGTGACTTC       420
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                                      1242
AGAAAGCAAG GGCAATGGCG CGATTGCTGG TTTGGTAATC GGTTTGTCAT TGATGGCGAT        480

GATTCTTGTC GGATTGAAGA TTACTGGACT TTCAGTAAAC CCAGCTCGTA GCTTGGCACC        540

AGCTGTCTTG GTAGGCGGCG CAsCCTTCAA CAAGTTTGGA TTTTCATCCT TGCACCAATC        600

GCTGGTGGAG TTCTTGCAGC CCTTGTTGCA AAAAATTTCC TTGGAACAGA AGAATAATTG        660

AAACTCAAAA AGCCTTGCTC CTCATCTTGA GGAACAGGGC TTTTTCGTAT GATACTCTTC        720

GAAAATCTCT TCAAACCACG TCAGCTTCAT CTTGCCGTAG TATGGTTACT GACTTCGTCA        780

GTTCTATCCA CAACCTCAAA ACAGTGTTTT GATCTGACTT CGTCAGTTCT ATCTGCAACC        840

TCAAAACAGT GTTTTAAGCT GACTTCGTCA GTTCTATCTG CAACCTCAAA ACAGTGTTTT        900

AAGCTGACTT CGTCAGTTCT ATCTGCAACC TCAAAACAGT GTTTTAAGCT GACTTCGTCA        960

GTTCTATCTG CAACCTCAAA ACAGTGTTTT AAGCTGACTT CGTCAGTTCT ATCCACAACC       1020

TCAAAACAGT GTTTTGATCT GACTTCGTCA GTTCTATCCA CAACCTCAAA ACAGTGTTTT       1080

GATCTGACTT CGTCAGTTCT ATCCACAACC TCAAAACAGT GCTTTGAGCA ACcTGCGGCT       1140

AACTTCCTAG TTTGCTCTTT GATTTTCATT GAGTATGACT TTAGCGGTTG TCAATTTTCT       1200

CTGGATAAAG GTCGTGTTGG AAGAGGCGTT GTTCTGCCAA GCCCTCATAC TTAGTTCCTT       1260

GCTTACCGTA GTTGTAGTAG GGGTCGATTG AAATGCCACC GCGCGGAGTG AATTTTCCCC       1320

AGACTTCTAA ATAGCGAGGG TCTAGCAAGT TGACCAAGTC TTTCCCGATG GTGTTGATAC       1380

AGTTTTCGTG GAAATCTCCG TGGTTTCGGT AGCTAAATAG ATATAGTTTG AGGGATTTTG       1440

ACTCGACACA GAGCTTGTCA GGAATGTAGG AAATATGAAT CGTCGCAAAG TCTGGCTGAG       1500

CAGTGATTTG TCCCAGCAGA GACATATCGA GGATATGGTG ACGAATGCCC TGTTCCTTAG       1560

CGATTTCTCT AGTAATTTGA ATTTCGAGGT GATGACGTTG GCCGTAGGCA AAGGTGACAG       1620

CTTCGACTGT TTCATAGTGT TGCATGACCC AGAAAAGGCA GGTTGTTGAA TCTTGACCAC       1680

CACTAAAGAC GACCAAGGCT AATTGACGTT TCATAGTACT CCTTCCAAAA TGGGAAATGT       1740

TCAGAGCACG CAAAAAGCTC CCATTAGGGA GCTAAAAAAT ACCAAATCGA GGTTTTTTTA       1800

GCGATGGCAT ATCCCAAACA TCGTAATATT CTACTTATAT AGTAAAATGA AATAAGAACA       1860

GGACAAATCG ATCAGGACAG TCAAATCGAT TTCTAACAAT GTTTTAGAAG TAGAGGTGTA       1920

CTATTCTAGT TTCAATCTAC TATAGTCTAG CATATTTTTT GAAAAATGGC AAAGGGCAAG       1980

AAAAAAGAGA CCAAAGAAAG TACTTGGTCT CTCGTTTGAT TAGCTCAATT CAGCAATGAT       2040

GGCCTTGATT TGTTCTGCTG TGTGAACACC TGCAACTTGT TTGACAACTT GGCCGTCTTT       2100

TTTGAAGAGA AGAGTTGGAA TAGACATGAT TCCAAAAGCA CGAGCTGTGT TTGGATTTTC       2160

ATCAACGTCC ATTTTAACGA TTTTCAAGAC ATCTTCTGAA AGTTCTTCAG ACAATTTGTC       2220
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1243

CAAGATTGGA CCTTGCATAC GACATGGACC ACACCAAGTT GCCCAGAAGT CTACTAAGAC   2280

CAAACCGTCT TTTGTTTCTT GTTCGAATGT TGCATCTGTA ATTGCTTTTG CCATTGTATT   2340

TCTCCTTTTT TTAGTTATAT TGGCTTAAAT CTTGTTTCAT GAGATAGAAG AAGATATCTC   2400

CATAAGTCCC ATGGTAGTCC AAATTATGAC CCTTGTAAGT TAATTTTTGG ACAGGGTAGT   2460

AKkCTGCGAC GCCGATAAGG CAAGCTTGTT GCGAACGTTC AAAGTCTTCA TAAGACTCGG   2520

(2) INFORMATION FOR SEQ ID NO: 227:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5278 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 227:

ACTCAGTTAG ATTTTGTTTT CAAAAACAAC GAAGAAAAAG ACCATGTTGC TCTACTTGGA   60

AGAATTGGCT CCGAACGTGT TTATCGATAT ATTAATAAAA AATATTTAGA TTTACCGGAA   120

ACATTCGAAA ATTATAATGT TTTTGTACCA GAAGCTAATG GAAGTGGTGC CTTAGGTGAA   180

GTCTTATCAA CACCCCTAAT CGGGGAACCC CTAATCGGGC ATACAGATAC TTTTTTATCT   240

ATTGGTAATT TTAAAACAAA ATTTGAAGCC GATGCTTGTA TTAAATTTAT TAAAACTAAA   300

TTCGCTAGAG TATTATTAGG TGTTTTGAAA GTTACTCAGC ATAATTCACG CAAAACTTGG   360

TATTACGTCC CCCTCCAAGA CTTTACGGTC AATTCGGACA TTGATTGGAC ACAATCAGTG   420

ACTGATATTG ACCGCCAGCT TGATCAAAAA TATGACTTTT CCCCTGAAGA AATTGCCTTT   480

ATTGAGAATC ATGTAAGGGA GATGGATTAG AAAAGTATTT TTATTTGACA AATAGTGCTC   540

AATGATCTAA AATGACTATA TAGGATTAGG TCAGGAAGCA TACGATGCCC TGACCCTTTT   600

TGTACTTATG AGATGAGAAA GTCATTTGTT AGATAAATTG ACTCGTTAGC AAACGTTCAA   660

AAAAGGAAAA CTTATGCCAG TAGAAATTAA AACCACTAAA GAAATTCATC CTAAAATCTA   720

TGCCTACACC ACACCGACAG TAACCAGTAA TGAAGGCTGG ATTAAGATTG GGTATACAGA   780

ACGTGATGTC ACACAACGTA TCAAGGAGCA AACGCATACA GCTCATATAG CTACAGATGT   840

CTTATGGACT GGTGATGCAG CTTATACAGA AGAGCCTGAT AAGGGGAAAA CTTTCAAGGA   900

CCATGATTTC CACCATTTCC TTTCTTTCCA TGATGTAGAA CGTCGTCCCA AGACGGAATG   960

GTTCTATTTT AATGGAACTC CTGAAAAATC AAAAAAATCTT TTTGATAAGT TTGTTCAGCA   1020

TGATTTGTCT GGTTATCAGC CTGGAAAAGG ACAGGACTAT ACTCTGCGAC AAGAGCAAGA   1080

1244

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AGAAGCAGTT GCTAAGACAT TAGCTTATTT CCAAGAACAT GCTGGAGGCA AGTTTCTCTG      1140

GAATGCCAAG CCACGCTTTG GTAAAACCTT GTCTACCTAT GACCTAGCTC GACGGATGGA      1200

AGCTGTCAAT GTCCTAATTG TAACAAACCG CCCTGCCATT GCTAACTCAT GGTATGATGA      1260

TTTTGAAACA TTCATAGCAG GTCAAACGAC TTACAAGTTT GTTTCTGAAT CAGATAGCCT      1320

TAAGAGTCGT CCAATCTTGT CACGACAAGA ATTTCTTGGT ATTTTAGCTG ACGATGTAAG      1380

ACAACTTGCT TTTATCAGTC TCCAAGACTT GAAAGGATCT GTTTATTTAG GTGGAGAGCA      1440

CGATAAACTC AAATGGGTAA CTGATCTGCA TTGGGACTTG TTGGTTATTG ACGAGGCTCA      1500

TGAAGGAGTT GATACCTTCA AGACTGACCA AGCCTTTAAT AAGATTCGAC GAAATTTTAC      1560

TCTGCATTTG TCAGGTACAT CATTTAAAGC ATTGGCTAAA GGAGATTTTA CAGAGGAACA      1620

AATCTACAAC TGGTCTTATG CTGATGAGCA GGCTGCTAAG TATTCGTGGT CTCTTGAGCA      1680

AGAAGAGGAA AATCCTTATG AAAGCTTGCC TCAGTTGAAT CTCTTTACCT ATCAAATGTC      1740

TCAGATGATT GGCGAAAAGT TAGAAAAAGG CGCTCAGATC GATGGTGAAA ATATTGACTA      1800

TGTTTTTGAC TTAAGTGAAT TTTTCGCTAC AGATGATAAA GGGAAATTTA TTCATGAGCA      1860

TGATGTCAGA AATTGGTTAG ATACTCTATC AAGCAATGAA AAATATCCAT TTTCAACCAA      1920

AGAACTCCGT AATGAACTCA AGCATACTTT TTGGCTTTTA GAACGTGTCG CTTCGGCCAA      1980

AGCATTAAAA GCCCTACTAG AAGAACACCC AATCTATGAA AACTATGAGA TCGTTCTAGC      2040

TGCTGGTGAC GGACGTATGT CCGAAGAAGA CGATAAAGTC AAACTCAAAT CCTTGGACTT      2100

GGTTAGAAAA GCGATAGCAG AGAATGACAA AACCATTACC CTATCCGTTG GTCAGCTGAC      2160

GACAGGTGTC ACTATCCCTG AATGGACAGG TGTATTGATG TTATCAAATT TGAAATCACC      2220

AGCTCTTTAT ATGCAGGCCG CCTTCCGTGC TCAAAATCCT TACTCATGGA GCGATAACAA      2280

AGGAAATCAC TTTCGCAAAG AAAGAGCCTA TGTATTTGAC TTTGCGCCGG AAAGAACCTT      2340

GATTCTCTTT GATGAGTTTG CCAACAACTT ATTGCTTGTA ACTGCAGCTG GTAGAGGAAC      2400

TTCAGCTACA CGCGAAGAAA ATATTAGAGA ATTATTAAAC TTCTTTCCAA TTATTGCCGA      2460

AGACCGTGCT GGTAAGATGG TTGAAATTGA TGCAAAGGCA GTTCTAACCA CTCCTCGCCA      2520

GATAAAAGCT AGAGAAGTTC TTAAACGAGG TTTTATGTCC AATCTCTTAT TTGATAATAT      2580

TAGTGGTATT TTCCAAGCAA GTCAAACAGT TTTAGATATT TTAAATGAGC TGCCAGTTGA      2640

AAAGGAAGGG AAGGTACAAG ATAGTTCTGA TTTATTAGAT TTTTCAGATG TTACAGTCGA      2700

TGATGAGGGA AATGCAGTAG TAGACCATGA AATTGTAGTT AATCAGCAAA TGCGACTTTT      2760

TGGTGAAAAA GTTTATGGAC TTGGTGAATC TGTTGCTGAG TTAGTCACAA AAGATGAGGA      2820

ACGAACTCAA AAACAGCTGG TCAATGACTT GAGTAAGACC GTTTCTTCAG TGATTGTAGA      2880
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1245

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GGAATTGAAA GCAGATTATT CTCTAAAAAC AAGGGAAACT GAGCAAATTA AGAAACAAAT    2940

TACAGCAACA CTTGAGAATG AAATTCGAAA AAATGATATC GAAAGAAAAA TTTCTGAAGC    3000

TCATATCAAG CAAGAGTTGC AACAGCAGCT CAAAGAAGCA AATGATAAAG CGCAAAAAGA    3060

TAAGATTCAA GAAGATTTGG AAAAACGTTT AGAAGAAAAT AAACTCATTC ATAAAGAAAA    3120

ACTAGAACAA ACACTCAAAA AAGAAGTGGA AAAAATGCCT GAGAAATTTA TCGAACAGGT    3180

TGAGATAAAA CGTGTGGAAC AGTTGAAACA ATCAGCTCAA GATGAAATTC GTGACCATTT    3240

ACGAGGGTTT GCAAGAACAA TTCCAAGTTT TATTATGGCT TACGGTGATC AAACTCTAAC    3300

ACTTGATAAT TTTGATGCCT TTGTTCCTGA ACATGTTTTT TATGAAGTAA CAGGGATTAC    3360

GATTGATCAG TTTAGATATT TGCGAGATGG TGGGCAGGAT TTTGCAGGGC ATCTCTTTGA    3420

TAAAGCAACA TTTGACGAAG CTATTCAAGA ATTTCTTCGC AAGAAAAAGG AGTTGGCGGA    3480

TTATTTTAAA GATCAAAAAG AAGACATTTT TGACTATATT CCACCGCAGA AGACCAACCA    3540

AATTTTCACT CCTAAACGAG TGGTGAAAAG GATGGTAGAT GATTTGGAAA AGGAAAATCC    3600

AGGGATTTTT GATGATCCAT CTAAGACTTT TATTGATTTA TATATGAAGT CAGGCCTCTA    3660

TATTGCAGAA CTTGTGAAGC GGTTATATAA TAGCAATGGC TTGAAAGAGG CCTTTCCAAA    3720

TCCTGAAGAA CGCTTAAAAC ATATTTTGGA AAAGCAAGTT TATGGATTTG CTCCGTCTGA    3780

GATTATCTAT AACATTTCCA CTAATTTTAT ATTTGGCAAT CTTTCTAAAG ATATCAGTAG    3840

GAAGAATTTT GTTTTAGCAG ATACCATTCC AGCGGCTAAA GAAGGGAGCA TTCAAAAGTT    3900

GGTTGATTCC TATTTTGAAA ATAATTAAAA AGAAGGCCGA GTCAAAATTC TTTGAAATCA    3960

GAAAAAACGC ATAATATTGA GTGCTTTTGT ACTGCCCCCC AAAAGTTAGA CAGAAAAAAT    4020

CTAACTTTTG GGGGGCAGTT CAGACAATCC TTGGTATTAT GCGTTTTATT GTGGGAAGAT    4080

GTATAATGGA TTGAAATAAG ATATGAACAA ATCAATTAGG AATTTAAAGC ATTTTATAAC    4140

AACGTTTTAG AGTAATGGGG GGCTATTTCA ACTTCAACCT ACTATAATAC AGAAAAAAAC    4200

AACTCCCTGA TAATTCAAGG AGTTGTCTAT AGTTAAATTA GTTTTTAGAA GCTTCTTGGA    4260

ATTCTGGGTT TTTCCATGCT TCGTCAATGA TAGCTTGTAA TTCTTTAGCA GATGCTTGCA    4320

TTTTTTGAGT TTCTGCGTCG TTCAATGGGA TATTTACTGG ACGAACGATA CCATGTGCAC    4380

CAACAACAGC TGGTTGACCG ATAAAGACAT TCTCAACTCC GTATTGACCT TCTTGGAATA    4440

CTGAAAGTGG AAGTACTGCG TTTTCATCGT CAAGGATTGC TTTAGTGATA CGAGCAAGGG    4500

CTACTGCGAT ACCGTAGTAT GTTGCACCTT TTTTGTTGAT GATTGTGTAG GCTGCATCAC    4560

GAACACCTTC GAACAATTCA ATCAATTCAG CTTCTTGAAC ATTTTGAGTG TCTTTAAGGA    4620
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1246

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ATTCTTCAAG GTTTACACCA GCGATGTTAG CGTGTGACCA AACAGCGAAC TCAGAGTCAC    4680

CGTGTTCACC CATGATGTAG GCGTGCACTG AACGAGCATC CACATCCAAT TTTTCAGCAA    4740

GTGCTTGACG GAAACGAGCT GAGTCAAGTG AAGTACCTGA ACCGATAACG CGTTCTTTAG    4800

GGAAACCAGA GAATTTCCAA GTTGAGTAAG TCAAAACGTC AACTGGGTTA GCAGCAACAA    4860

GGAAGATACC TTTGAAACCA GATTCAACAA CTTGAGTTAC GATTGATTTG TTGATAGCAA    4920

GGTTTTTACC TACAAGGTCA AGACGAGTTT CACCTGGTTT TTGAGGTGCA CCTGCAGTGA    4980

TCACAACAAG GTCAGCGTCT GCACAGTCAG AGTATTGAGC TGCATAGATT TTTTTAGGTG    5040

AAGTGAAGGC AAGGGCGTGA CTAAGGTCAA GCGCATCACC AACAGCTTTT TCATGCAATT    5100

GTGGAATTTC GATAATTCCA AGCTCTTGTG CAATTCCTTG GTTAACAAGT GCAAAAGCGT    5160

AAGATGAACC TACAGCACCA TCACCGACAA GGATAACTTT TTTGTGTTGT TTAGTTGAAG    5220

TCATTGTTTT AAACATCTCC TTAATTTTAT TAGGGGATTT TCCCTAGACA ACTTCATT     5278
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(2) INFORMATION FOR SEQ ID NO: 228:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1941 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 228:

```
ATAAGGAATC TCTAAAAAAT TTTAAGGAGA ATCTAGCAAA TGGATTTCAC ATGGGCACTG     60

AAGTATGCCA CTGAATTTTT GGGAACTGCC ATTTTGATCA TTCTTGGGAA TGGTGCAGTT    120

GCCAACGTTG AACTTAAAGG TACGAAAGGT CACCAAAGTG GCTGGATCGT CATCGCTGTT    180

GGTTATGGTA TGGGGGTTAT GATCCCAGCC TTGATGTTTG GTAACGTATC TGGGAATCAC    240

ATCAACCCTG CTTTCACTCT AGGGCTTGCA GTTAGCGGTC TTTTCCCTTG GGCACAAGTG    300

GTACCTTACA TTATCGCGCA AGTCTTGGGG GCTATCTTTG GCCAAGCCTT AGTTGTGGCA    360

ACATACCGTC CATTCTACTT GAAAACTGAA AACCCAAATA ACATCTTGGG AACTTTCTCA    420

ACTATTTCAA GTATTGACCA TGGTACAAAA GAAAGTCGCT ATGCAGCAAC TGTCAATGGT    480

TTGATTAATG AGTTTGTTGG TTCATTTGTT TTGTTCTTTG CAGCTCTTGG TTTGACTAAA    540

AACTTCTTTG GTGCTGAAGT GCTTCAATTC ATGAAACAAA AGGCAACAGA AGCAGGACAA    600

ACAGTTGATT TTTCTGACTT GGCTATTAAA GCACAGGTGG CTCCACACAC TGCTTCAGGA    660

CTTTCTGTGG CTCACTTGGC ACTTGGATTC CTCGTTATGG CTTTGGTAAC ATCACTTGGA    720

GGACCTACAG GACCTGCCTT GAACCCAGCC CGTGACTTGG GACCACGTCT CCTTCATGCT    780
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1247

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TTCCTTCCCA AATCAGTTCT TGGTGAGCAT AAAGGCGATT CAAAATGGTG GTATTCTTGG          840

GTACCAGTAG TAGCACCTAT CGCAGCAGCA ATTGCGGCAG TAGCTGTATT CAAATTCCTT          900

TATCTCTAAG AAATAGCTCC TTTAACATTT GAGTGAGCAC CATCTATAAG TAAGAGAGGA          960

TCAGACTGGk TCTCTCTTTT kGATTTTTaG GGAAATGAAA GAAcTCTAAA CAAACTCCTC         1020

TCCAGCAGTG GTTTAGAAGT CTCAGTGGGC TATTCCAGCT TCAATGGACT ATAGTAGGTT         1080

GCAGTTGAAA TAATAGACCC TTGTTTCTAA AACATTGTGA GAAATTGGTT TGAATTCTCC         1140

AATCAAATTG TGCAGTTTTC ATTCTACTAT ATATTATCGG AATATTATCG GAGATGGGTT         1200

CCCTATCTTG TAAGTCTGCT TTATAGTGGG TTGAAGTTGG AATAGTCCTC CCTTCTTTCT         1260

CAAACATTGT GAGGAATTGA TTTACCTTCC TCAACAAAAT GTTCAGTTTC TATTTCATTT         1320

TACTATAAAA TAAGCGATTA GGGGGGCTAT TCTTCGACCT ACATTGACTC TGCTGAGTCC         1380

TATGATTGTT ATCGTTTTAT CTGCAATTTT ATACTCAATG AAAATCAAAG GGCAAACTAA         1440

GAAGCTAGCC GCAGGTTGTT CAAAACACAG TTTTGAGGTT GTATAGTAGA TTGAAACTAG         1500

AATAGTACAC ATCTACTTCT AAAACATTGT TAGAAATCGA TTTGACTGTC CTGAACGATT         1560

TGCCCTATTC TTGTTTCATT TTACTATATA AACCAGAGAC TGTTTACATT TTCAGCAAGT         1620

GAGTGGATGG ATAATGCTGA AAACTCCTTG AAGGATAAGT CTATTTAGTA CTTTCTATTA         1680

ATTAGTTAAA TTTTTACCAA GAATAATTCA CAAAAACGTT GTAAAACACT TGCAATTTAG         1740

CTGAAATTTG ATAAAATAGT AAGGAAAGTT AGACTGTATT GCCTACTGTC TATCTATAAA         1800

ATATATTTTA TTGGAGGCTT TTACTCAAAT GGCAAAAGAA AAATACGATC GTAGTAAACC         1860

ACACGTTAAC ATTGGTACTA TCGGACACGT TGACCACGGT AAAACTACCC TAACTGCAGC         1920

TATCACAACT GTTTTGGCAC G                                                  1941
```

(2) INFORMATION FOR SEQ ID NO: 229:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 755 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 229:

```
ATTTGAAGAA ATTGAAGAAA TCGTAGCCCC TACAGATGGT GAATTTTTGG GGGAAGTTTT           60

ACTTGGAACT GGGGTAGTTC TCTTAATTGG AGTAGCCTGT TGTTAAAAAG ATAGGGAGTG          120

ATAATCATGC AAGATAACTT TTTATTTGAG GAAATTGAAG AAATTTCAGT ACCAGTTAAT          180
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1248

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GATTTTTCAG CTGGACTTGC AACAGGTATC GGATTTGGTT TAGCAATCCT TGCTCTTGCT        240

GGTTGTTGAA GTTTGTTCAT TTACTAACAT CAAGCTTTTT CAATTTCATT TTAGACAGTC        300

ATTTAAATTT TCCGTATTAG TCTTGCAGCA AGAGATTAAT AGAATTAGTC ATTATTTTAT        360

TGATTGCGGA CTGAGGGACT AGAGTATGTT TTACTTAACC CCTCTTTTAT TTATTAAAGG        420

TTAGGTTTGT TATGAGAATT GTTGATAAGA TTAAGATATT ACCTACTCCT TATGAGGGAC        480

ACTATCATTT ATATATACCA TCCAGTAAGA AACATGTATT AGTTGGGAAA CAGGAAAAAA        540

ATGGTTAGAG CAACTAATAG GTCAAGAATT TACCATATCG GACTTATTAG TGTTAGTAGG        600

GAAGAAATAT TTTTAAAATA TCTTGGGACT TTAATATAAC ATTATCTGAA AAATTAAACT        660

ATAAAGATT TAATAAGAAT TTTGAAAAAA TCCTATCTTG TTGTCATTAT ATTTGCAACG         720

ATACATGAAA TTAGTCATGC AATAATTGCT AATAA                                   755
```

(2) INFORMATION FOR SEQ ID NO: 230:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1483 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 230:

```
CCAGAAAAAC CGTAGTGGAG CTCGTGGAAC AGTGGAATTG ATTTTCCAAA AAGAATACAA         60

TAAATTTTCA AGTATCTCAA AGAGGGAGGC ATAAGATGTC AGATGCATTT ACAGATGTAG        120

CCAAGATGAA AAAAATCAAA GAAGAAATCA AGGCACATGA GGGACAAGTC GTAGAAATGA        180

CTTTGGAGAA TGGTCGTAAG CGCCAAAAAA ATAGATTGGG TAAGCTAATT GAAGTTTATC        240

CATCTCTATT TATTGTGGAG TTTGGGGATG TGGAAGGAGA TAAACAAGTT AATGTTTACG        300

TTGAATCCTT TACTTACTCA GATATTCTTA CAGAAAAGAA TTTGATTCAT TATCTTGACT        360

AAAGTGAGAA ATTTTCTCAC TTTTTCTTTT TTCTCCGAAT AATTTAGGTG AAGGCAATCA        420

TCGCTTTATA TTATTTTTCA AGGAGGAAGA ATGAAAATTT TACCGTTTAT AGCAAGAGGA        480

ACAAGTTATT ACTTGAAGAT GTCAGTTAAA AAGCTTGTTC CTTTTTTAGT AGTAGGATTG        540

ATGCTAGCAG CTGGTGATAG TGTCTATGCC TATTCCAGAG GAAATGGATC GATTGCGCGT        600

GGGGATGATT ATCCTGCTTA TTATAAAAAT GGGAGCCAGG AGATTGATCA GTGGCGCATG        660

TATTCTCGTC AGTGTACTTC TTTTGTAGCC TTTCGTTTGA GTAATGTCAA TGGTTTTGAA        720

ATTCCGGCAG CTTATGGAAA TGCGAATGAA TGGGGACATC GTGCTCGTCG GGAAGGTTAT        780

CGTGTAGATA ATACACCGAC GATTGGTTCC ATTACTTGGT CTACTGCAGG AACTTATGGT        840
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1249

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CATGTTGCCT GGGTGTCAAA TGTAATGGGA GATCAGATTG AGATTGAGGA ATATAACTAT      900
GGTTATACAG AATCCTATAA TAAACGAGTT ATAAAAGCAA ACACGATGAC AGGATTTATT      960
CATTTTAAAG ATTTGGATGG TGGCAGTGTT GGGAATAGTC AATCCTCAAC TTCAACAGGC     1020
GGAACTCATT ATTTTAAGAC CAAGTCTGCT ATTAAAACTG AACCTCTAGC TAGCGGAACT     1080
GTGATTGATT ACTATTATCC TGGGGAGAAG GTTCATTATG ATCAGATACT TGAAAAAGAC     1140
GGCTATAAGT GGTTGAGTTA TACTGCCTAT AATGGAAGCT ATCGTTATGT TCAATTGGAG     1200
GCTGTGAATA AAAATCCTCT AGGTAAtTCT GTTCTTTCTT CAACAGGTGG AACTCATTAT     1260
TTTAAGACCA AGTCTGCTAT CAAAACTGAA CCCCTAGTTA GTGCAACTGT GATTGATTAC     1320
TATTATCCTG GAGAGAAGGT TCATTATGAT CAAATTCTCG AAAAAGACGG CTACAAGTGG     1380
TTGAGTTATA CGGCTTATAA CGGAAGTCGT CGCTATATAC AGCTAGAGGG AGTGACTTCT     1440
TCACAAAATT ATCAGAATCA ATCAGGAAAC ATCTCTAGCT ATG                       1483
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(2) INFORMATION FOR SEQ ID NO: 231:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 1027 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 231:

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CCCGGAAAAC AAGTTAAAGT TGAAGTTGGT CAAGCAGTTT ACGTTGAAAA ATTGAACGTT       60
GAAGCTGGTC AAGAAGTTAC TTTTAACGAA TTGTTCTTGT TGGTGGTGAA AACACTGTTG      120
TCGGAACTCC ACTTGTTGCT GGAGCTACTG TAGTTGGAAC TGTTGAAAAA CAAGGAAAAC      180
AAAAGAAAGT GGTTACTTAC AAGTACAAAC CTAAAAAAGG TAGCCACCGT AAACAAGGTC      240
ACCGTCAACC ATATACAAAA GTTGTCATCA ACGCAATCAA CGCTTAATTT TAAGGAGAAC      300
ACATGATACA GGCAGTCTTT GAGAGAGCCG AAGATGGCGA GCTGAGGAGT GCGGAAATTA      360
CTGGACACGC CGAGAGTGGC GAATACGGCT TAGATGTCGT GTGTGCATCG GTTTCTACGC      420
TTGCCATTAA CTTTATCAAT TCTATTGAGA AATTTGCAGG CTATGAACCA ATCCTAGAAT      480
TAAACGAAGA TGAAGGTGGC TATCTGATGG TTGAAATACC AAAAGATCTT CCTTCACACC      540
AGAGAGAAAT GACCCAGTTA TTCTTTGAAT CATTTTTCTT AGGTATGGCA AACTTATCGG      600
AGAACTATTC TGAGTTCGTC CAAACCAGAG TTATCACAGA AAACTAACAC GGAGGAAAAC      660
ATTATGTTAA AAATGACTCT TAACAACTTG CAACTTTTCG CCCACAAAAA AGGTGGAGGT      720
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1250
TCTACATCAA ACGGACGTGA TTCACAAGCA AAACGTCTTG GAGCTAAAGC AGCTGACGGA   780

CAAACTGTAA CAGGTGGATC AATCCTTTAC CGTCAACGTG GTACACACAT CTATCCAGGT   840

GTAAACGTTG GTCGTGGTGG AGATGATACT TTGTTCGCTA AAGTTGAAGG CGTAGTACGC   900

TTTGAACGTA AAGGACGCGA TAAAAAACAA GTGTCTGTTT ACCCAATCGC TAAATAAAAA   960

GGTCCATTGA ACCTTTTATC CCGAACCTTG AAATGTAGAG GTGAGGAAGC TAGAAACAGC   1020

TTAAAAT   1027

(2) INFORMATION FOR SEQ ID NO: 232:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1990 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 232:

CGGTTCAAAT GGTGCAGGTA AATCTACGTT AATTAATTCT ATTGTAGGTT TTCAAGAGAT   60

TTATTTAGGA GAAATAGAGT ATTGTGATAA AGATTTGATA GTTAGTTCTC AACCTTTTGC   120

TCATTTAGGC TTTACTCCTC AAACCACAGT AATTGATTTT TATACTACTG TGAAGGACAA   180

TGTAATATTG GGGCTGAACC TTGCTGGAAA GTTTGGGAAA AATGCTGAGA AGTTGTGTCA   240

AATAGCCTTA GAAATTGTTG GGTTAGCTGA TAAAAAAAAT AATTTGGTAG AAACATTGTC   300

AGGTGGACAA CTGCAACGCG TCCAGATTGC TAGAGCAATA GCTCATAATC CAGATTTTTA   360

TATTTTAGAT GAACCTACCG TTGGTTTAGA TACTGAATCT GCCGAAAAAT TTTTAATGTA   420

TTTAAAAGAT AAGAGTTTGG AAGGAAAAAC TATTATCATA TCTTCACATG ACATAAATCT   480

ACTCGAAAAG TTTTGTAAAA AAATACTTTT TTTACAAAAT GGCTCCATAT CATTTTTTGG   540

TGATATGCGT GACTTTGTAG ATAATTCAAC TATCAAATTA AATTTTTCAA TGCAGAATAG   600

AATTTCTAGA TATCAAATTG AATTTTTAGA AAATTTTAGA TTTAAAGTTC ACATCGAAGA   660

TAATGATAGT TTTACAATAG AAGTCCCTAT AGAAGAAAAG ATCTTAGATG TTATCAATGA   720

GGTAGGAAAA GCATGTGAAA TTAAAAACTT TTCAACAAGT AAATTAACCT TACAAGAAAG   780

TTATTTGCAA AGAATAGGAG GAGAAAAATG AAGGCTGATC AATTAAGGCA CAAATCGGAC   840

TTAGGTTTAA GAGGTCTAGC GATTATTGCT AAAAATGAGA TTATTGCTTT TTTTAGAAGT   900

AAAGGTTTAA TTATTTCTCA GTTTCTACAA CCAATCTTAT ATGTTGTTTT TATAATAATA   960

GGATTAAATT CTTCGATAAA GAACATTCAG TTTAATGATA TAAAAACCTC TTATGCAGAA   1020

TATACAATCA TTGGTGTTAT AGCTTTATTG ATAATCGGGC AGATGACTCA AGTTATTTAT   1080

1251

AGGGTGACAA TAGATAAAAA ATATGGGCTA CTTGCTCTTA AGTTATGCAG TGGAGTTCGT   1140

CCTTTATATT ATATTTTAGG GATGAGTATC TATTCTATAT TAGGGTTGAT AGTTCAAGAA   1200

ATTATTATAT ATATAATTAC GTTAGCGTTT GAGATAAATA TCGCAATGGA TAGATTTTTT   1260

TATACAGTTT TGTTATCTAT TGTTGTTTTA TTATTTTGGG ACTCCCTTGC AATTTTACTT   1320

ACAATGTTTA TCAATGATTA CAGAAGACGT GATATTGTAA TACGTTTTGT ACTAACACCG   1380

CTTGGTTTTA CAGCTCCTGT TTTCTACTTA ATAGATTCTG CTCCTAGTAT TGTGAGATGG   1440

ATTGGTCAGT TAAATCCCTT AACTTATCAA TTAACTATTT TGAGAAACTT TTATTTTAAA   1500

AATTCAACAA CTTTGGAATT AGTTTTCTTA TTGTTAACAT CATTACTTGT CCTTATATCT   1560

GTATCTTTTA TTATACCAAA GATAAAATTG ATACTGATAG AAAGATAAAA GTTGGGTCAT   1620

CCAACTTTTT TGTTGTCTCC CGAAAACCAC TAGCTATGCT AGTGGTTCCA TAGAGCTTTT   1680

AGCGTGGTAA CAAAAAGAAC CTCCTAAAAT GATAAGATAG AAGTGGTTTC TCCGCCACTA   1740

CAACATATCA TACAGGAGGT ACCTCATGAG AGAGGATAAT CAAAGTTTAT CACATACCAC   1800

ATGGAATTGT AAATATCATA TTGTTTTTGC ACCCAAATAT CGTCGTCAAA TCATTTATGG   1860

CAGATACAAA GCTAGTATCG GAAGAATCAT ACGTGACTTA TGTGAGCGTA AGGGTGTAAT   1920

AATCCATGAA GCGAATGCTT GTTCAGACCA TATTCACATG CTTATCAGTA TTCCTCCGAA   1980

ACTTAGTGTT   1990

(2) INFORMATION FOR SEQ ID NO: 233:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4766 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 233:

GAACTATATT GCATATATTT CTAGCAATGA TCATGGCGAA TCTTGGTCTG CACCAACTTT   60

ATTACCTCCT ATAATGGGAC TTAATCGGAA TGCGCCATAT TTAGGTCCTG GACGTGGAAT   120

CATTGAAAGC TCAACTGGAC GTATTCTTAT TCCGTCTTAC ACTGGTAAAG AGTCTGCGTT   180

CATTTATAGT GACGATAATG GAGCATCTTG GAAAGTTAAA GTAGTGCCAC TTCCTTCTAG   240

TTGGTCAGCA GAAGCACAAT TTGTAGAATT GAGTCCAGGA GTAATTCAAG CATATATGCG   300

TACAAATAAT GGTAAAATTG CATATTTAAC AAGTAAAGAC GCAGGTACTA CTTGGAGTGC   360

ACCGGAATAT TTGAAATTTG TTTCAAATCC AAGTTATGGA ACACAATTAT CAATCATCAA   420

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                                        1252
TTATAGCCAA TTGATTGATG GTAAAAAGGC TGTCATTTTA AGTACTCCAA ACTCCACAAA         480

TGGTCGTAAA CACGGACAAA TTTGGATTGG TCTAATTAAT GATGATAATA CAATTGATTG         540

GCGTTATCAT CACGACGTTG ATTATAGTAA CTATGGATAC TCATATTCAA CATTGACAGA         600

GTTACCAAAT CATGAAATTG GATTGATGTT TGAAAAATTT GATTCATGGT CTCGTAATGA         660

ACTTCATATG AAAAATGTTG TACCATATAT AACATTTAAG ATTGAAGATC TGAAAAAGAA         720

TTAAAGCTGA AATTTGAAAA TATATAAAAA GAGGATAAAA ATTATGGTAA ATTACGGTAT         780

TGTTGGAGCT GGATATTTTG GAGCTGATTT AGCTCGCTCA ATGAACAAAA TTGAAGATGC         840

AAAAGTGGTT GCGGTATTTG ACCCAAATCA TGGAGAAGAA GTTGCTCAAG AGTTGGGATC         900

AGATGTTTGT GCAAGTTTAG ATGAACTTGT AGCACGTGAA GATATTGATT GTGTGATCGT         960

AGCTTCACCT AGCTACCTTC ACCGTGAACC AGTTGTGAAA GCTGCTCAAC ATGGCAAACA        1020

CGTATTTTGT GAAAAGCCAA TTGCATTGTC TTATGAAGAT TGTAAAGCCA TGGTTGACGC        1080

ATGTAAAGAA AATAATGTCA TCTTTATGGC TGGTCACATC ATGAACTTCT TTAACGGTGT        1140

ACACCATGCT AAAGAATTGA TTACTCAAGG TAAAATCGGT AAAGTTCTTT ATTGCCATGC        1200

TGCTCGTACA GGTTGGGAAG AACAACAACC AACTGTATCA TGGAAGAAAC TTCGTTCTCA        1260

ATCTGGAGGA CATTTGTACC ACCATATTCA TGAATTAGAT TGCATTCAGT TTATCATGGG        1320

AGGACTTCCT GAAAAAGCGA CAATGGTAGG AGGCAATGTA TATCATAAAG GTGAAAACTT        1380

TGGTGATGAA GATGATATGC TCATTGTAAA CTTAGAATAC TCTGATGATC GTTATGCTGT        1440

TTTGGAATAT GGTAATGCTT TCCGTTGGGG TGAACACTAC GTCTTGATTC AAGGAACTGA        1500

AGGAGCTATC AAACTTGACT TGTTCAATAC TGGCGGTACT CTTCGTGTTA AAGGTGAAGG     ·  1560

AGAATCACAC TTCTTAGTTC ATGAAACTCA AGAGGAAGAT GATGATCGTA CAGCTATCTA        1620

TACCGGTCGT GGTATGGATG GAGCAATTGC GTACGGTAAA CCAGGAGTAC GTTGCCCATT        1680

ATGGTTGCAA ACATGTATTG ATAAAGAAAT GGAATATCTA CATGACATCA TTAAAGGTGG        1740

AGAAATTACA GAAGAATTTG AAAAACTTCT CAATGGTGTA GCTGCTTTAG AATCAATCGC        1800

TACCGCTGAT GCATGTACTT TATCAGTTAA AGAAGATCGA AAAGTAAGTC TTTCAGAAAT        1860

CACAAATGCT TAACTTTTGT AAAACAGAAT AGTAAATTCT TGTCATTATA TAATTTCTAA        1920

AGTTCTGTGA TACAACTCAT TGAATAAAGA AATAGAGATG GGACTGGGAT AATGCCCAGT        1980

CCCATTTTTT ATCAAAAAGT AATGAGATCA AAAATGTGGG AGTGTTGAAA TGAAGATTAT        2040

AGGTATCGAT ATTGGCGGAA CAACAATTAA GGCAGATTTA TACGATGAGT TTGGAACGAG        2100

TTTGAATCAT TTCAAAGAGA TAGAAACAAT TATTGACTAT GATTTGGGAA CGAATCAGAT        2160

ATTAAATCAG GTCTGTGATT TAATTGGTGA GTATACTTTA AATCATTCAA TTGATGGTGT        2220
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1253

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TGGGATTTCC ACTGCTGGAG TTGTTAATGC TAATACTGGA GAAATCATCT ATGCAGGCTA    2280

TACAATACCA GGGTATATCG GAGTAAACTT TACTGCCGAA ATAGAAAAAC GTTTTGGGTT    2340

GTATACTTTT GTTGAAAATG ATGTTAATTG TGCTGCATTA GGTGAATTGT GGAAGGGACA    2400

AGCCAAAGAT AAGAAAAATG TAGTAATGGT TACTATTGGA ACAGGTATAG GAGGCAGTAT    2460

TATTGTCAAC GGACAAATTG TTAACGGATT TAACTATACT GCTGGTGAAG TAGGTTATAT    2520

TCCTGTAGGT AATTCGGATT GGCAAAGTAA AGCCTCAACA ACCGCATTGA TTCATTTATA    2580

TCAAAAAAAG AGCTTGAAAA CTAATCAAAC TGGACGTACT TTCTTCACTG ATTTAAGATC    2640

TGGAGATAAA GTTGCTGAAG AAACTTTTGA AATTTTTGTA GAAAATCTAA CAAAAGGTTT    2700

ATTAACGATT TCTTATCTAC TTAATCCAGA AATTCTCATA TTAGGAGGTG GGATTCTGGA    2760

TAGTAAGGAT ATTTTGTTAC CTGAAATTCA AAGTTCTTTA GCTAAAAATG CAATGGATAA    2820

TAGGTTTTTA CCTAAAAATC TTGTGGCAGC TACATTAGGA AATGAAGCTG GTCGTATAGG    2880

AGCTGTAAAA AATTTCTTAG ATAGAATTTC TAATAAATAG TATGTAAGAT AAGGAGGTGT    2940

CACAATGACT AACTCTGTAT TTTCGACAAT GCAAGATATT GAGAATGTTG CAACCGATAT    3000

TATAAAATCA TATGATAATG AGATTTATAC TTATAAAGCT GTTTCCCAAG AAGAATTGGA    3060

AAAACTAGAA AAAAGTTATG ATGAAAAAG TCACGAAGAA TTAGTTTCAA TAGAAAGCAA    3120

TTTAGAAATG AAACAACAGA ACCTTATTGA TGAGGTTAAT AAAAACAATCA AGGAAAATGA    3180

TGCAAATATT CAGTATATTT CATCAAGTAG GAGAGGAGAA TTTGTAGAAA AAATTATTGG    3240

TAGGGTGGTA GAAAAATATG GCCATTAGTC AGATGAAAAG AATCTCTCTA CTATTTTCTA    3300

AAAGTAGTCT TGATGATGTT TTAAAAACTA TTCAAGAACT AGAGTCAGTG CAGTTCCGTG    3360

ATTTAAAGGT TCAGGATAAC TGGTCAGAAG CTCTAGAAAA AGATGAAGTT GTATTTCCAA    3420

CTATTCAAAT TTTTCATACT TCTAATTCCA ATCATGGGGT TATTGAGGGA AATGATGCCT    3480

TGACTTATTT GATGAATCAA CAACAACATT TAGAAGCAAC TGTAGAGAAA TTACAAGAAT    3540

ACCTACCGAA AGAAAACACG TTTAAATTAT TGCAGCAACC TCCGATAACT ACCTCTTATG    3600

AAGAATTAGA GAAATTTGGT AAAGCTAATG TTGCTGAGGG TGTTCTTAAA AAAGTGAATC    3660

ATCAAATTAA CAGAGTTCAT GAATTAGAAA GACACATTCA AAGTAATAAT GAGGAAATAG    3720

AGCGATTAAT AAAGTGGGAA AAATTAGAAA TTGTTCCTGC GAATTTAGAA CAATTTTCTT    3780

TCTGTAAAGG AAAAGTCGGA ACAATTCCAA GGACTGAAGA TAATCGCTTA TACAATAGTC    3840

TTTTAGAAAA CAATATTGAA GTTCAAGAAA TATTTTCTAA TGATAGAGAG TACGGTGTTG    3900

TTGTTTTCTA TCAGTCTAGT TACTCTATAG ATTTTGATGA ATACTTATTT GAACCATTTG    3960
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1254

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ATTATTCTAG AAAGGAATTA CCGAAGCAGC GAGTAGTAGA TTTAGATCAA GAAAACATGC      4020

AGTTAATAAC TGAAAAAGAG AATATTATCG CATCGTTGCA AGATTCAAAG AAATATTTGA      4080

TAGATTTACA ATGGCAAATA GACTATATTT TATCTATCTA TGCTCGTCAA ATCTCTAAGA      4140

ATAACTTTTT GTGCACTCCG CATCTAGTTG CATTAGAAGG ATGGATAGAA GAAACTCGTA      4200

TTTTATATTT TATAAAAGTT ATGGATGAGC ATTTTGGACA TTCTATTTAT ATTTATGAAT      4260

CGGAAACATT GACGGATAAT CAAGATGAAA TACCTATCAA ATTAACGAAT CATTCTTTAA      4320

TTGAACCATT TGAATTATTG ACAGAAATGT ATGCTCTGCC CAAATATTAT GAGAAAGATC      4380

CTACACCTGT ATTAGCACCA TTTTACTTTA CATTTTTTGG AATGATGGTT GCTGATTTAG      4440

GCTATGGTTT ACTATTGTTT TTAGGAACAA TGTTAGCATT AAAAATTTTT CATCTACCTT      4500

CAGCAACTAA GAGATTTTTA AAATTCTTTA ATATATTAGG GGTAGCCGTT GCAATTTGGG      4560

GTGGAATCTA TGGCTCATTT TTTGGATATG AGTTGCCATT TCATCTGATA TCTACAACCT      4620

CTGATGTCAT GACTATATTA GTAGTGTCAG TTGTGTTTGG GTTTATTACA GTATTTGCAG      4680

GTTTGTTAGC TTCAGGACTA CAAAAAGTAA GAATGAATAA ATATGCAGAA GCATATAATT      4740

CAGGATTTGC GTGGTGTGTT ATTCTG                                          4766
```

(2) INFORMATION FOR SEQ ID NO: 234:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2484 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 234:

```
CCTTTTAGAA AAAATTAAAG AATACGACAC CATTATCATT CATCGTCATA TGAAACCAGA       60

CCCTGATGCC TTGGGAAGTC AGGTGGGATT GAAAGCCTTG CTGGAACATC ATTTCCCAGA      120

AAAAACCATC AAAGCCGTCG GTTTTGATGA ACCAACTCTT ACTTGGATGG CTGAGATGGA      180

TCTTGTTGAA GATAGAGCCT ACCAAGGCGC ACTTGTCATC GTCTGTGATA CAGCTAATAC      240

TGCTCGTATC GATGATAAGC GCTATAGTCA AGGTGATTTT CTCATTAAGA TTGACCACCA      300

TCCAAATGAT GATGTATACG GTGACCTGTC TTGGGTCGAT ACTAGTTCAA GTAGCGCTAg      360

aGaTGATTAC CCTATTTGCC CAAACAACCC AACTAGCCTT GGCAGATCGC GATGCTGAGT      420

TGCTCTTTGC AGGAATTGTC GGTGATACAG GTCGCTTCCT CTACCCTTCT ACCACTGCAC      480

GGACTCTTCG CCTGGCTGCT TATTTGAGAG AACATAACTT TGACTTTGCG GCTCTCACTC      540

GCAAAATGGA CACTATGAGC TACAAAATTG CTAAACTGCA AGGCTACATC TACGACCATC      600
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1255

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TGGAAGTGGA TGAAAATGGT GCTGCTCGCG TTATCCTGAG TCAGAAAATC. TTGAAACAAT    660

ACAATATAAC CGATGCTGAA ACTGCGGCCA TTGTAGGTGC ACCTGGACGC ATTGACAGAG    720

TGAGTCTCTG GGGAATTTTT GTCGAACAGG CTGATGGCCA CTACCGAGTT CGCTTACGCA    780

GTAAAGTCCA TCCTATCAAT GAAATTGCCA AGGAGCATGA TGGTGGAGGC CACCCTCTAG    840

CAAGTGGTGC TAATTCCTAT AGCCTAGAAG AAAACGAAAT CATCTACCAA AAGTTAGAAG    900

ACTTGCTTAA AAACTGATAA AATACTTGCC AAACTTTTCA GAATCTGATA GACTAGTATA    960

GTAACAATCT ATGGCTCGCA AAGAGACCAT GGCAGAAAGG AAATATTGCA AAATGAAAAr   1020

AGATATCCAT CCAGAATATC GCCCAGTTGT CTTCATGGAC ACAACTACTG GTTACCArTT   1080

CCTTAGCGGT TCAACAAAAC GCTCTAACGA AACAGTTGAG TTCGAAGGCG AAACTTACCC   1140

ATTGATCCGT GTGGAAATTT CATCAGACTC ACACCCATTC TACACTGGAC GTCAAAAGTT   1200

CACTCAAGCA GATGGACGCG TGGATCGTTT CAACAAAAAA TACGGTCTCA AATAATGATA   1260

AGAGAACAGT TTTGGCTGTT CTTTTTTGTT TCTTGAAATC AACTGCTGTT TTCATGTTCC   1320

AGACTCATCT GTAGGTTCGA TTTCCATGCT ACTAGGCAGG AAGGAAATAG CTGTTTCAAC   1380

ACGTCCATAA TGAGCTATAC TATTGTCACG AACCACACTT TCATTGATGG TCCAAGTGGA   1440

ATTCATTTTC TTAAAAGCTT CTCGGACTTT TTCCAAATCT TTGGAGGCAA TGGCCTGCTC   1500

TAAGGTTTCA AAACGAGGAC TTATACTCAT CTGCTTTCAA AAAGCATTCT AGTCCATCTC   1560

CGATTACCGA TGGACTTTAT CACCTCCTTC TCCAGTCCTT GTATGACATC TTGAAGTTGA   1620

TTCATGACAT CTTCCAAAGT TCgAAAGGCT TTATTCTTAA ATCCACGTTT ACGAATCTCT   1680

TTCCACACTT GTTCAATGGG TTCATCTCTG GTGTGTATGG AGGAATAAAG GTAAAATCAA   1740

TATTAGTCGG AATATTTAAG GTACTTGATT TATGCCATAT AGCATTGTCC ATAACGAGTA   1800

AAAGGATAAG CTTGTGAAAG CTCTTCTAAA AAGGCGTTCA TCCACACTCC TTTTTATAAA   1860

CCTGAAATAA GGCATCAATT GTAACAAATT CTCCTGCCTC TGTAGCCTTC AAATGACGGG   1920

CAAGAAAGGC TTTCTCTTCC TCAACTGTCA TATATGCATG GTTACGACCA CCACGTGTTT   1980

CTTGAAGGAG AGAGTCGAGT CCGAACTCCT CATATTTTTT TACGTTTCGC CAAATCGTTG   2040

TTTGATTACA GTCTAAAAGC TCTATAATCT CTTTATAAGA TTTGCCCATC AGACGAAATA   2100

TAGTAGATTG AAACTAGAAT AGTACACCTC TACTTCTAAA ACATTGTTAG AAATCGATTT   2160

GTCCTGTTCT TGTTTCATTT TACTATAGAA CGATTTGAAG GCGTTTATAA TATTTAGCTG   2220

TACGAGAGTC TTTTAAAAGT GTTTTGATGG TTTGGATTTC TTCTTTAGTT GATTTCATAT   2280

TACTATTATA TAATGCTTTT TGATTTTAGT CTGGTATAAA TATTGCTTTC CTCCAAAATG   2340
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<div align="center">1256</div>

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GTCATAGTTT TACTGGCAAA TCTAACATAT CACGGATAAA TTAACAAGTG ATTTCTGAAT      2400

TGCTAAACAT TTTCTTTTCT TATAGCATAC TTTAAGATTT TGTCTTTGAG AAAGATATTT      2460

CCAAGAAAAA CGTTCGTTTT TTGG                                            2484
```

(2) INFORMATION FOR SEQ ID NO: 235:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1766 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 235:

```
CTAGATATAG CTATAATTTT ATTTATAACA AGAGGATAGA AATGACCGAA TTAGAAAGAA       60

AAAATCGAAA AATTAGCTAA GAAATATTCT GATAACTTAA ACATCAAAGT TCAAGAGAGA      120

GTTCGTGAAA TGGCAAATGA TAATAAGAGC CATTATTTGA TATACAGAGT TTTAGGTATT      180

TCATTTGAAG AAGGAGAAAA TATCGATTTG TATCAAAATA AAGGTCGTTT TTTATACAAA      240

TATGCTGGTT CATTTTTAGA AGAAGCTGCA GTACTATGCT TTAACGAAAA ATTTGGTACA      300

GAAAATACTT AAAAAGTTAA CATTCCTAAT TCTGAAAGTA CAAAACCTAA GACTTTTGAA      360

ATTGATTGTT TAGTCGGAGA AAAACACGCA TACGAAATAA AATGGTGGGA TGCAACTACA      420

GATGGAGACC ATATAACTAA AGAACACACT AGAATAAAAG TTATTCATAA CAAAGGATAT      480

ATACCAATTC GGTTAATGTT CTACTATCCA AATAGAACTC AAGCTATAAA AATTCAGCAA      540

ACTTTAGAAA CATTGTATAA CGGTATTGGA GGGAAATATT ATTATGGAGA TTCTGCCTGG      600

GAACATTTAA GAGCAGTGAC CGGTATTGAT TTACTTAGTA TTCTAACAGA TATTGCAAAT      660

AAAAAAACAG GGGTAAAATC AAAATGACAG TATTAAAAGG AGATAACTTA GAAATATTAA      720

AAACTATTGA ATCCTCAAGT ATTGATTTAA TCTATATGGA CCCTCCTTTC TTTACACAGA      780

AAACCCAAAA ATTATCTAAT AACAAAAATA TTATGTATTC ATTCGAAGAT ACGTGGACTT      840

CGATTGAGGA TTACAAAGAA TTTTTGTCTG TAAGATTAGA AGAATGCAAA AGAGTGCTAA      900

AAAATAGTGG CAGTATTTTC GTTCATTGTG ATAAAATTGC AAATCATCAT ATTAGATTAA      960

TTTTAGATAA TATCTTTGGA GTAGATATGT TTCAAAGCGA AATTATATGG AACTATAAAC     1020

GGTGGTCTAA TTCAAAAAAG GGATTATTGA ACAATCATCA AAACATTTAC TTTTATTCAA     1080

AGTCAAAAGA TTTTAAATTT AATACAATTT TTACAGAGTA TTCTTCTACT ACAAATATCG     1140

ACCAAATACT AGTGGAACGA AAACGAGATG GAAACTCTAA AACTATATAT AAGGTTGATA     1200

ATAATGGTAA CTATATTCTA GCAAAAGAGA AAAATGGAGT TCCCCTTTCA GATGTTTGGA     1260
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1257

ATATACCATT TCTTAATCCA AAAGCTAAAG AAAGAGTAGG TTATCCTACA CAAAAACCTA   1320

TTCTGTTATT AGAACAAATT ATAAAGATTG CTACTGATAA AAATGATATA GTTTTAGACC   1380

CGTTCTGTGG AAGTGGAACT ACTTTAGTAG CCTCCAAGAT TTTGAATAGA AATTATATGG   1440

GGATTGATTT ATCTGAGGAA GCTATCAATA TAACTCAGCA ACGTCTGGAA AATGTTATAA   1500

AAACAAGTTC AAATTTATTG AATAAAGGAA TCGAAGCATA TAGAACCAAA ACTGAGGAAG   1560

AGGAAAACAT TCTTAAATTA TTACAGGCAA AAATTGTTCA AAGAAATAAA GGAATTGATG   1620

GTTTTTTACC TAAACATTTT CAAAAAAAAC CGATACCTAT AAAAATTCAA AAAAATAATG   1680

AATGTCTGAA TGAGAGTATC TCTTTATTAC AGAATGCTAT AAACTCCAAA AAACTTGATT   1740

TTGGAGTAGT TATAAAAACT CATTCG   1766

(2) INFORMATION FOR SEQ ID NO: 236:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 748 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 236:

CCGAAAATCA AATTCAAACC ACGTCAACGT CGCCTTGCCG TACTCAAGTA CAGCCTGCGG   60

CTAGTTTCCT AGTTTGCTCT TTGATTTTCA TTGAGTATTA AACTAAATTA AATAATATTA   120

GCGCGGAGAA TTTCTAATTC TTCCTTGGTC AAGCGACGCC ATTCCCCTCG TTCTAGGTTC   180

TCATCTAATA CTAAAGTTCC CATAGTCAAT CGTTGCAAGT CCACCACTTC CTTGCCACAG   240

TAGCCCACCA TACGCTTGAT CTGATGAAAC TTCCCTTCTG CAATGGTCAC ACGGATTTGG   300

CTTTGATTCT TTTCTGTATC TATGGATACA AGCTCCAGTA TAGCGGGTTG ACAGGTAAAG   360

TCTTTGAGAG GAATACCCTC AGCAAATGTC TCCACATCTT CTTGGGTCAT GATTCCCTTG   420

ACTTGTGCCA GATAAGTCTT GTCCACATGA CGCTTGGGCG AAAGAAGAAC ATGAGCCAGC   480

TGACCATCAT TGGTCAAGAG CAAAAGACCA TGCGTGTCAA TATCCAAGCG TCCTACTGGG   540

AAAACTTCCT TACTCCGCGC CAAGTCATCC AACAAGTCCA GAACGGTTCT GTGCTTGGGA   600

TCCTCAGTCG CTGAGATAAC TCCTTTGGGC TTGTTCATCA TGTAGTAGAC AAACTCTTCA   660

TACTCCAACA CTTGCCCATC AAAGCGAATC TCATCTATTT TTTCATCAAT CTGCAATTTA   720

GCTGATTTTT CTTTTTGACC ATTTACAG   748

(2) INFORMATION FOR SEQ ID NO: 237:

1258
(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 1449 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 237:

```
AAAAGATTAC ATTGCAACAA TTGAAAATTA TCCAAAGGAA GGCATTACCT TCCGTGATAT       60

TAGTCCTTTG ATGGCTGATG GAAATGCTTA TAGCTACGCT GTTCGTGAAA TCGTTCAGTA      120

TGCTACTGAC AAGAAAGTCG ACATGATCGT GGGACCTGAA GCTCGTGGAT TTATCGTGGG      180

TTGTCCAGTT GCCTTTGAGT TGGGAATTGG TTTTGCGCCT GTTCGTAAGC CAGGTAAATT      240

GCCACGCGAA GTTATTTCTG CTGACTATGA AAAAGAGTAC GGTGTCGATA CCTTGACTAT      300

GCACGCGGAT GCCATTAAGC CAGGTCAACG TGTTCTTATT GTAGATGACC TTTTGGCGAC      360

AGGTGGAACT GTTAAGGCAA CTATCGAGAT GATTGAAAAA CTTGGTGGTG TTATGGCAGG      420

TTGTGCCTTC CTTGTTGAAT TGGATGAATT GAACGGCCGT GAAAAAATTG GTGACTACGA      480

CTACAAAGTT CTTATGCATT ATTAATGAAA ACAGTCCCTA GGGCTGTTTT CTCTACACTA      540

GGATATAAAA ATAGACTATA ACTAGTTAGA GAAAAACTAT AATTGAAAAC TATATCTTCT      600

TGCAGTATAA TAAAAGGACT AAGTGTTTGA GATTTGTCTT CAAACATATG CAATTATTCC      660

TGAAAGAGTA CAGTTAGGAG AGGGTTATGC CGATTCGAAT TGATAAAAAA TTGCCAGCTG      720

TTGAGATTTT ACGGACAGAG AATATCTTTG TCATGGATGA TCAACGTGCT GCCCACCAAG      780

ATATCCGTCC TTTGAAGATT TTAATTTTAA ATCTCATGCC ACAGAAAATG GTCACAGAGA      840

CCCAGTTGTT GCGCCACTTG GCTAATACAC CCCTACAACT GGATATTGAT TTTCTCTATA      900

TGGAGAGCCA CCGTTCTAAA ACAACTCGTT CAGAGCACAT GGAGACCTTC TATAAAACTT      960

TTCCTGAAGT CAAGGATGAG TATTTTGATG GGATGATCAT CACGGGTGCT CCAGTTGAGC     1020

ATTTACCATT TGAGGAAGTG GACTATTGGG AGGAATTTAG ACAGATGCTT GAGTGGTCTA     1080

AGACTCATGT CTATTCGACC CTTCATATCT GTTGGGGGGC TCAGGCTGGG CTTTATCTGC     1140

GCTATGGTGT AGAAAAATAC CAGATGGACA GTAAGCTATC AGGTATTTAT CCTCAGGACA     1200

CCCTAAAAGA GGGTCACCTT CTATTTAGAG GCTTTGATGA TAGCTATGTA TCCCCTCATT     1260

CACGGCACAC GGAGATTTCT AAGGAAGAGG TCTTAAACAA GACCAATCTC GAGATTTTAT     1320

CAGAAGGACC TCAGGTTGGG GTTTCTATTw TGGCCAGTCG TGATTTACGA GAAATTTATA     1380

GTTTTGGTCA TTTGGAGTAT GACCGTGATA CTTTGGCAAA AGAGTATTTT CGAGATCGTG     1440

ATGCAGGTT                                                            1449
```

1259

(2) INFORMATION FOR SEQ ID NO: 238:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 904 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 238:

```
TACCCGCTTC TTTCAAGAGT TGGAGCAGGG CTTGTTTGCG ATCTTTTGTC ATAGTTCTTC      60

CTTTTAACGG CGTTTTCGAA GCACTTTATA GACAGCTAGT GCTAATGTAT AGTCTACCAT     120

ACTATGGATA ATTGTACCAA ATCCAACTAG TACAAATAGA ACATAAAACA TATTTTCTAC     180

ATTGGTACCA GAAGTTGCGT AAAAAACGAC ACAGGCCAAT ACTTCAGCAA GGGCATGAAC     240

AACAGCCAAA ACAAAGTTGA AAATCCAGGA AGATTTTGGT TTATCTAGGG TATCGGGGAA     300

TTTTTGTAGG TAAAGAGCTC CTAAAGCACC AAAAGATATA TGGGAAAAAG CCCGAAAAAC     360

GATAACCATG GGATAGCCAG CCATCAAAAA TCCAAAACTA GAGGCTAGGA TGACAAAAAC     420

TGCCATCAAG GGCGACAAGA ACATGGCTAT AAAAATAGCG ATGTGGCTCC CCAAAGTATA     480

GGAAGCAGGT GGAATGACAA TCTTGAAAGG CATAACAATT GGAATCAAAA TCGCAATAGC     540

CGTTAAAAGG GCTGTCATTG TCATAAATTG TGTCTTTTTC CGTGTATTCA CAAGAATCTC     600

CTTTTTAACT GCATATACAC TAGTATGGTA CAATAAACCA GACAATAAAG CAAGAATTTA     660

CTTGGGTTTA TAGATCATTT TTTAGTTAAA AGTTATAGTA GATTGAAACT AGAATAGTCC     720

ACCTCTACTT CTAAAACATT GTTAGAAATC GATTTGGCTG TCCTGATCGA TTTGTCCTGT     780

TCTTATTTCG TTTTACTATA GTAAAGATTT CATTAAAAAG AAACTGTATA GAGCAAAATC     840

TCCACCTTCA GGTTTGGAAA GCGGAGATTG TTTnTTATTT TTTCCAGGGT TTGTAGTCGT     900

GGGA                                                                 904
```

(2) INFORMATION FOR SEQ ID NO: 239:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 946 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 239:

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CACTCAAACA TGACTTATAT CAAGACGGAT GGACTTCAAG ACGATGCCAA TCGCTTGAAT      60
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1260

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CGTAACATTC AGTTTGGTGT TCGTGAATTT GCAATGGGAA CAATCTTGAA CGGGATGGCC        120

CTTCATGGTG GACtTCGTGT ATACGGTGGA ACTTTCTTCG TCTTCTCTGA CTATGTGAAG        180

GCAGCTGTCC GCTTGTCAGC CTTACAAGGA CTTCCTGTGA CTTATGTCTT TACCCATGAT        240

TCAATCGCAG TTGGGGAAGA TGGTCCGACT CATGAACCAG TTGAGCATTT AGCAGGTCTT        300

CGTGCTATGC CAAATCTAAA TGTTTTCCGT CCAGCAGATG CGCGTGAAAC GCAAGCAGCT        360

TGGTACCTTG CAGTGACAAG TGAGAAAACA CCAACTGCCC TTGTCTTGAC ACGTCAAAAT        420

TTGACTGTTG AAGATGGAAC AGACTTCGAC AAGGTTGCTA AAGGTGCTTA TGTTGTATAT        480

GAAAATGCAG CCGACTTTGA TACCATCTTG ATTGCGACAG GTTCAGAGGT TAATCTTGCT        540

GTCTCAGCTG CTAAAGAATT GGCTAGTCAA GGCGAAAAAA TCCGCGTAGT CAGCATGCCA        600

TCTACAGATG TCTTTGATAA ACAAGATGCA GCTTACAAGG AAGAAATTCT TCCAAATGCA        660

GTCCGCCGTC GTGTTGCAGT CGAAATGGGT GCAAGTCAAA ACTGGTACAA ATATGTTGGT        720

CTCGATGGTG CCGTTCTAGG TATTGATACT TCGGAGCCTC TGCCCCAGCA CCAAAAGTAT        780

TGGCAGAATA TGGCTTTACT GTAGAAAATC TTGTAAAAGT TGTTCGAAAC TTGAAATAAT        840

CCTAAAAATC AGGGCGTAAG CTCTGGTTTT TCTTACCAGA AAAGTAAGGT ACAATCTTGT        900

AAAAGTAGCT GAAATTTGAT ATAGTAGTCC TATGTAAAAG ACAAAG                        946
```

(2) INFORMATION FOR SEQ ID NO: 240:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2764 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 240:

```
CGGGGCTCCc TAGTTCTTAG GGAGCTATTT TTGTTTTTTC AAGAAGTTAT CTTCTTGTAT         60

TTTATACTCA ATGAAAATCA AAGAGCAAGC TAGGAAACTA GCCGTAssTG CTCAAAACAC        120

TGTTTTGAGG TTGTAGATAA GACTGACAAA GTCAGGAACA CATATCTACG GCAAGGCGAC        180

GTTGACGCGG TTTGAAGAGA TTTTCGAAGA GTATTAGTTG TGAATCTGGT GCAGTCGTCC        240

CAGATTATTC TTATTAGTAG GGTCTTGTTT TCTATATCCC CTCGTAGTTA ACAAGACCTT        300

GAGCATTTTA GAAAGAGGAA TCTATGTCTA CGAAATATAT TTTTGTAACT GGTGGTGTGG        360

TATCGTCCAT TGGGAAAGGG ATTGTGGCAG CGAGTCTAGG CCGTCTCTTG AAAAATCGTG        420

GTCTCAAAGT AACCATTCAA AAGTTTGACC CTTATATCAA TATTGATCCG GGAACCATGA        480

GTCCTTACCA GCACGGGGAA GTTTTTGTGA CAGATGACGG AGCTGAGACA GATTTGGACT        540
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1261

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TGGGTCACTA TGAACGTTTC ATCGATATCA ATCTCAACAA ATATTCCAAC GTGACAACTG    600

GGAAAATTTA CAGTGAAGTT CTTCGTAAAG AACGCCGTGG AGAATACCTT GGGGCAACTG    660

TTCAAGTCAT TCCTCATATC ACAGATGCTT TGAAAGAAAA AATCAAGCGT GCCGCTCTAA    720

CGACCGACTC TGATGTCATT ATCACAGAGG TTGGTGGAAC AGTAGGAGAT ATCGAGTCCT    780

TGCCATTCCT AGAGGCTCTT CGTCAGATGA AGGCAGATGT GGGTGCGGAT AATGTCATGT    840

ATATCCATAC AACCTTGCTT CCTTACCTCA AGGCTGCTGG TGAAATGAAA ACCAAACCAA    900

CCCAACACTC TGTCAAAGAA TTGCGTGGCT TGGGAATCCA ACCAAATATG TTGGTTATTC    960

GTACAGAAGA GCCAGCTGGT CAAGGAATTA AAAATAAACT GGCCCAGTTC TGTGATGTGG   1020

CACCAGAAGC CGTTATCGAA TCGTTGGATG TTGAACACCT TTACCAAATT CCACTGAACT   1080

TGCAGGCACA AGGGATGGAC CAAATTGTTT GTGATCATTT GAAATTAGAC GCACCAGCAG   1140

CGGATATGAC AGAATGGTCA GCCATGGTGG ACAAGGTCAT GAACCTCAAG AAACAAGTTA   1200

AGATTTCCCT TGTTGGTAAG TATGTGGAGT TGCAAGATGC CTATATCTCA GTGGTCGAAG   1260

CCTTGAAACA CTCTGGCTAT GTCAATGATG CAGAAGTTAA AATCAATTGG GTCAATGCCA   1320

ATGATGTGAC AGCAGAGAAT GTAGCAGAAC TCTTGTCTGA TGCGGACGGG ATCATCGTAC   1380

CAGGTGGTTT TGGTCAACGT GGTACAGAAG GGAAAATCCA AGCCATCCGC TATGCGCGTG   1440

AAAATGATGT TCCAATGTTG GGAGTCTGCT TGGGAATGCA GTTGACATGT ATCGAGTTTG   1500

CTCGTCACGT TTTAGGTCTT GAAGGTGCCA ATTCTGCAGA GCTTGCACCA GAAACAAAAT   1560

ACCCTATCAT TGATATCATG CGTGATCAGA TTGATATTGA GGATATGGGT GGAACCCTTC   1620

GTTTGGGACT TTATCCGTCT AAGTTGAAAC GTGGCTCTAA GGCTGCTGCT GCTTATCACA   1680

ATCAAGAAGT GGTGCAACGC CGTCACCGTC ACCGTTATGA GTTTAATAAT GCCTTCCGTG   1740

AGCAGTTTGA GGCAGCAGGT TTTGTCTTTT CAGGAGTTTC TCCAGACAAT CGTTTGGTAG   1800

AAATCGTGGA AATTCCTGAA AATAAATTCT TTGTAGCTTG TCAGTATCAC CCTGAACTGT   1860

CAAGCCGTCC AAACCGACCA GAAGAACTCT ACACTGCCTT TGTTACTGCA GCAGTTGAGA   1920

ACAGCAATTA GCAAAATCAG AACCTTTGAG AAAAATCTCA GAGGTTTTTT GCATACGATG   1980

ATATTGCAGT ATATCTGAGG TAGGGGTCCT CTGTATGTAC CTGCTACCGT TGAAATCAAT   2040

AGCGACTCCC TCTTGCCCTG TGCTAGTGAA TGGATTTATC AGTATATTGA AATGAAATAA   2100

AATTTGAACA AATTAATTCG GAAAGCCAAA TCAATTTCTA GCAAAGTTTT AGGAACTGGA   2160

TTGTATAGTG AATTGAAATA AGATGTGAAC ATCTCTATCA GGAAAGTCAA ATTAATTTAT   2220

AGAAATATTT TAGCAGTCAA GATGTACTGT TATAGATTCA ATACATTATA CTTTTTTAAT   2280
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1262

```
TTAATCCACT ATAGTAAAAT GAAATAATAA CAGGACAAAT CGATCAGGAC AGTCAAATCG        2340

ATTTCTAACA ATGTTTTAGA AATAGAGGTG TACTATTCTA GTTTCAATAT ACTATCCCAA        2400

ATCATTCATA CCTCTCTCAA CTAGATGTAA CTTACAAAAC CCCTGACCTC ATGAGCCACT        2460

TTCTTCCTCC TCATGAGGTC AGTTTTACTT TCTGCTGTTC CAGTATCGTT TTTCCTCGCT        2520

AGATTTCCTC AAAAGGGCAG ACTCCTCCCT TGGTGCGTCA CACGATTTTT TCATCTCGAC        2580

TGTTCTTTAA TGCATCATTA ACGACGCTTT TCTTCTAGGT GGTTCATAAG GAACAGGAAG        2640

ATTCAGGTTG ACTTTTCTAA TCCTAGAATA AAGTGCTGAA AACAATTCGG AATAGGCATA        2700

GAGACTAGAC AATTTGAGGA GCTGCTTGCG TCCTGTTCGA ACACATTTTC CCACCACGTG        2760

AAGA                                                                    2764
```

(2) INFORMATION FOR SEQ ID NO: 241:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1682 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 241:

```
CCGTTTTTTT CATTGTTCAG TACTACAACT TACGTTGTAG CGCCCTGCAC ATTGGTTCGT         60

CTTGTTCAGT TTTCAAAGGT CTTTGTCACT TGCTTCTCTC AAGCGACAAC TATATTAGTA        120

TATCACAACT GCTTTCGCTT GTCAACACTT TTTTGAAGAT TTTTAAGTTT TTTTAAACTT        180

TTTTTCATCA AGTGGTCCTG ACGCAACATA CCATAGTCCG TACGGGATTC GAACCCGTGT        240

TACCGCCGTG AAAAGGCGGT GTCTTAACCC CTTGACCAAC GGACCTGAGT TGTTATTTTC        300

AACTCTTACT ATTATACAGT CTTTTCAAAC TTTGTCAACT ACTTTTTTAA ACTTTTTTTA        360

TTAATTTTAC AACAGCTTCA GTTCGAGCTG TATGTGGGAA CATATCGACC GACTGGATAT        420

AATGAAGATC ATAGACTTCT ACTAAGCGTA CCAAATCACG AGCCAAGGTC GAAACATTAC        480

AAGAAATATA AACCATTTTT TCTGGTACAT AAGTAAGAAT AGTATCTAAT AACTTATCAT        540

CCAGACCTGT ACGTGGTGGG TCAACAATCA AAGCATCTGC TCGGTAGCCT TCCTTGTACC        600

AACGAGGAAT AATCTCTTCT GCCGTTCCAG CTTCATAATG AGTATTGTCA AATCCCATTC        660

TTTTAGCATT TCGCTTGGCA TCTTCAATAG CTTCTGGAAT AATATCCATA CCTCTGAGTG        720

TTTTTACTTT CTTTGCAAAG GCAAATCCAA TCGTTCCAAC TCCACAATAA GCGTCAATCA        780

AATGGTCTTC TTTATCAACA TCCAGCGCTT TTACTGCTTC GCTATAGAGG ACTTCTGTTT        840

GCTCAGGATT TAGTTGATAA AAAGCTCGAG GGGATAGTGA AAATTCATAA TTGAGTACAC        900
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1263

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.CTTCTTGAAT ACTCTCTTGC CCCCAGATAA TCTCTGTCTT TTCACCATAT ATCTCACTGG        960

TTTTAGCTGT ATTTGTATTA ACAGCTACTG TCACAACTTC TGGGAAATCT TTAACCAACT        1020

CTTTTACCAA TTGAGTTAAA TTAAGCTGGC GGTTTGTAAC AATAATAATC TGAACCTGTC        1080

CGGTCTTTCT CGCGCGTCGG ACCATAATAG TACGGACACC TAGAACTTTT CTCTCATCCG        1140

TGATTGGAAT CTGGTGATAA GTAAGTAATT CTGCTAAGCG ATTAGCAATC ACTTGGGTTT        1200

CCTTATCTTG TACCAGGCAG TCTTTCAACT CTACTAAATA GTGAGAGTTT TGTGCATATA        1260

AGCCCGCCTT GACCTGATTT TTAAATTTTC GAGTCTGAAA TTGTAACTTA GCTCTGTAAT        1320

ATTTTGGTTC CTGCATTCCA ATAGTTGGAC GAATTTCATA ATTTTCATAT CCTGCAGGAG        1380

CAAATTTTTT CAGCGCTTGA TGAAGTAAGT CCGTCTTGAA CTCCAGCTGC TTATCATAAT        1440

GCAGGTGCAT GATTTGGCAG CCTCCGCATT CATTATAAAT AGTACAAGAT GGCACAATTC        1500

GAAATTTAGA CTTCTTGTTG ACCTTCAGTA ATTTTGCTTC AACAAAGTTG CGTCTAATAG        1560

AAGTAATCTG ACAATAGATA TCTTCGCCTT TGAGAGCTCC TGGTACAAAG ACTAATGTTT        1620

TTTGGTAAAA GCCGATTCCC TCACCGTTAA TTCCCATGCG CTTGATTTTT AATGGTATTT        1680

TT                                                                      1682
```

(2) INFORMATION FOR SEQ ID NO: 242:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2524 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 242:

```
TTAACTTTGG TCAATTCTTT AAAGTCATCC TCTGTAAGCA TGTCTAACCA TTGATGTTTC         60

CCTTTATTGC TAAAATCACC AATTCCGACT ACAGCTATAT CTAAATCTTT CCAACTATTT        120

TTCAAATTTT CAAAATATCT TGATTGCAAA ATACCATCTG CTAACAATTT ATTTTCTTGC        180

ACAATCGTTG CATTCATAAA TGTACACTCT CCATGAAATT TTCTAGACAT TTCATAAATC        240

AGTGTATTCA CATGGTATTT AGCGTGTATG TGACTAGGAC CACCTGCTAG AGGATAGAAG        300

TGAACATTTC GGACACTTTT ACTGTGAATT AAATCTACTA AATTACTTAA ACTTTTCCCC        360

CAAGAAAAGC CAATTTTCAT ATTATCATCA ATTAGATTCC TAAGGACGCC TGCTGCAACT        420

TGAGAAATTC TTTCAGATAA AATTGTTGGA GTATCATCAA ATTCATTTGG AATAATTTCT        480

AAACTTTCCA AACTGTATTT TTCTTTTACA TAATTTTCCA ACTTAAACAT ATTGGTATCA        540
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1264

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AAATTCTCTA TTTCAATTTT AACAATTCCT ACATTCCTTG CTTCTGTTAA CATTCTACTA      600

ATAGAGGTTC TATAAATTCC TAATTTTGCT GCTATTTGTG ACTGATTTAA GTTTTCAATA      660

TAATACAGAT AAGCAATTTT AGAAAGCAGT TTATTCCTAT CTTGATTCAT ACACTTAACC      720

TCTTACGAAA CTACCTTAAC CATTATCCCA GCATTTTCTA ATGTAGCTAT ATTTTGTTTA      780

GAAAGTTTTT CGTCTGTTAT TACTTCATAG ACTTGACTTA AAGCAAATCT TCTTACTGTA      840

CCTCTTTTAT CAAATTTACT TGAGTCAGTT AGGACAATGA CTTTATCCGA CACTGCTGAA      900

ATATATTGAA CTACCTCACT GCGCATTAAA TCTTTTCCGG TAAAGCCCAT CTCTTTATCG      960

TAACCATCTG TCCCAACAAA AGCTTGACAC ACATGAAAAG TCTGTATCAT TTCTTTTAAT     1020

AAAGGTCCTA CAGTCACCTG TGAATCTTTC TGAAACTCAC CACCAAGAAC AATAACACGA     1080

CATGAATCAT AAGCTCTCAC AAAATTTGCT ATAAAAAACG AATTTGTTAC AATCGTAACA     1140

TTTCTTTTTT GCTTGCAAAT TTCCTCAGCA AGTAAAGCAC AGGTCGATCC AGATTCTATC     1200

ATTATTGTTT CATTATCTGA CACCAATTTT ACTGCTTCCT GAACAATTTT TCTCTTAGTT     1260

TCATAATTAA TTGACAAACG TACATTTAAG TCATCTCCAC TATTTAATAC AGCATATCCA     1320

TGCTCTCTGT GTAATAAACC TTTTGACTCT AATTTATCTA AATCTTTTCT AATCGTTACT     1380

TTCGATACAT TTAATTTTTC CGATAATGTA TTAACGTCGA TCTTTTCATA TTCTGATACT     1440

AATTTAATAA TTTGTTCCAA TCTTTTCATT TTACACCTCC GTTTTATTCT ACCAAAATAA     1500

AAAGCAAAAA ACAACAAATT AACCTTTCGT TCGTAATTGT TTTTCTTTCG TTTTTGTGAT     1560

AGGATAGACT TATGAAGAGG AGGAACTCTT ATGGAAATAT CTAAAGGAAT TATTTTTAAT     1620

ATTCAACACT TTTCAATTCA TGACGGTCCG GGTATTCGTA CAACTGTTTT TTTAAAAGGA     1680

TGTCCTCTGC GCTGTCCATG GTGTTCTAAT CCTGAATCTC AAAGAATGAA ACCTGAAAAA     1740

ATGAAAGATG CTCAACGAGA GAAATTCACC TTAGTCGGTG AAGAAAAGAC TGTAGAAGAA     1800

ATTATTACAG AGGTATTAAA AGACAAAGAA TTTTACGAAG AATCCGGTGG AGGTTTAACT     1860

TTATCAGGAG GTGAAATATT TGCTCAGTTT GAATTTGCTA AAGCCATCTT AAAATCAGCT     1920

AAAGAACATC ACATACACAC TGCCATTGAA ACTACTGCCT TTGTTGATCA TGAAAAATTT     1980

ATTGATTTAA TTCAATATGT GGATTTTATC TACACAGACC TAAAACATTA TAATTCTATA     2040

AAACATAAAA AAGTGACTGG GGTTTTTAAT CAAATGATTA TTAAAAACAT TCATTATGCT     2100

TTTTCACAAA ATAAAACTAT CGTTTTAAGA ATCCCAGTTA TTCCTAATTT TAACAATAGT     2160

TTAGAGGATG CAGAAAAATT CGCTACTCTA TTTAACTCAT TAAATATCGA CCAAGTTCAA     2220

CTACTCCCTT TTCATCAATT TGGTGAAAAC AAAATATCGTT TATTAAATCG GAAATATGAA     2280

ATGGATGGAA TCAACGCACT TCATCCwGAA GATCTTATTG ATTATCAAAA GGTATTTCTG     2340
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1265

AACCACCATA TTAATTGTTA TTTCTAGTTT ATTTCCTTGA AATGCTCTAG CTATTTGCAG   2400

ATAACAAGCA TCTATAATAC ATACTTAACT TTTCAAAAGG TTTAGCTAAA AAATTTTAGC   2460

CAAACCTTTT CTATTTTACC TTGCTCTAGA ATTTTTAAAC TGCTATACTT ATCACAAAAA   2520

AACG   2524

(2) INFORMATION FOR SEQ ID NO: 243:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 2359 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 243:

CGTGCTTGGG GGCTTGTGGT CAAAAGGAAA GTCAGACAGG AAAGGGGATG AAAATTGTGA   60

CCAGTTTTTA TCCTATCTAC GCTATGGTTA AGGAAGTATC TGGTGACTTG AATGATGTTC   120

GGATGATTCA GTCAAGTAGT GGTATTCACT CCTTTGAACC TTCGGCAAAT GATATCGCAG   180

CCATCTATGA TGCAGATGTC TTTGTTTACC ATTCTCATAC ACTCGAATCT TGGGCAGGAA   240

GTCTGGATCC AAATCTAAAA AAATCCAAAG TGAAGGTCTT AGAGGCTTCT GAGGGAATGA   300

CCTTGGAACG TGTCCCTGGA CTAGAGGATG TGGAAGCAGG GGATGGAGTT GATGAAAAAA   360

CGCTCTATGA CCCTCACACA TGGCTAGATC CTGAAAAAGC TGGAGAAGAA GCCCAAATTA   420

TCGCTGATAA ACTTTCAGAG GTGGATAGTG AGCATAAAGA GACTTATCAA AAAAATGCGC   480

AAGCCTTTAT CAAAAAAGCT CAGGAATTGA CTAAGAAATT CCAACCAAAA TTTGAAAAAG   540

CGACTCAGAA AACATTTGTA ACACAACATA CAGCCTTTTC TTATCTAGCG AAGAGATTTG   600

GGCTTAATCA ACTTGGTATT GCAGGTATCT CTCCTGAACA AGAACCAAGT CCACGACAAC   660

TAACAGAAAT TCAGGAATTT GTTAAGACCT ATAAGGTTAA AACGATTTTT ACAGAAAGTA   720

ACGCTTCTTC AAAAGTAGCT GAAACTCTTG TCAAATCAAC AGGTGTGGGT CTTAAAACTC   780

TGAATCCTTT AGAGTCAGAC CCACAAAATG ACAAGACCTA TTTAGAAAAT CTTGAAGAAA   840

ATATGAGTAT TCTAGCAGAA GAATTAAAGT GAGGAAAGAA TGAAAATTAA TAAAAAATAT   900

CTAGCAGGTT CAGTGGCAGT CCTTGCCCTA AGTGTTTGTT CCTATGAGCT TGGACGTTAC   960

CAAGCTGGTC AGGATAAGAA AGAGTCTAAT CGAGTTGCTT ATATAGATGG TGATCAGGCT   1020

GGTCAAAAGG CAGAAAACTT GACACCAGAT GAAGTCAGTA AGAGGGAGGG GATCAACGCC   1080

GAACAAATTG TTATCAAGAT TACGGATCAA GGTTATGTGA CCTCTCATGG AGACCATTAT   1140

1266

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CATTACTATA ATGGCAAGGT TCCTTATGAT GCCATCATCA GTGAAGAGCT CCTCATGAAA        1200

GATCCGAATT ATCAGTTGAA GGATTCAGAC ATTGTCAATG AAATCAAGGG TGGTTATGTC        1260

ATTAAGGTAA ACGGTAAATA CTATGTTTAC CTTAAGGATG CAGCTCATGC GGATAATATT        1320

CGGACAAAAG AAGAGATTAA ACGTCAGAAG CAGGAACGCA GTCATAATCA TAACTCAAGA        1380

GCAGATAATG CTGTTGCTGC AGCCAGAGCC CAAGGACGTT ATACAACGGA TGATGGGTAT        1440

ATCTTCAATG CATCTGATAT CATTGAGGAC ACGGGTGATG CTTATATCGT TCCTCACGGC        1500

GACCATTACC ATTACATTCC TAAGAATGAG TTATCAGCTA GCGAGTTAGC TGCTGCAGAA        1560

GCCTATTGGA ATGGGAAGCA GGGATCTCGT CCTTCTTCAA GTTCTAGTTA TAATGCAAAT        1620

CCAGCTCAAC CAAGATTGTC AGAGAACCAC AATCTGACTG TCACTCCAAC TTATCATCAA        1680

AATCAAGGGG AAAACATTTC AAGCCTTTTA CGTGAATTGT ATGCTAAACC CTTATCAGAA        1740

CGCCATGTGG AATCTGATGG CCTTATTTTC GACCCAGCGC AAATCACAAG TCGAACCGCC        1800

AGAGGTGTAG CTGTCCCTCA TGGTAACCAT TACCACTTTA TCCCTTATGA ACAAATGTCT        1860

GAATTGGAAA AACGAATTGC TCGTATTATT CCCCTTCGTT ATCGTTCAAA CCATTGGGTA        1920

CCAGATTCAA GACCAGAAGA ACCAAGTCCA CAACCGACTC CAGAACCTAG TCCAAGTCCG        1980

CAACCAGCTC CAAGCAATCC AATTGATGAG AAATTGGTCA AAGAAGCTGT TCGAAAAGTA        2040

GGCGATGGTT ATGTCTTTGA GGAGAATGGA GTTTCTCGTT ATATCCCAGC CAAGGATCTT        2100

TCAGCAGAAA CAGCAGCAGG CATTGATAGC AAACTGGCCA AGCAGGAAAG TTTATCTCAT        2160

AAGCTAGGAA CTAAGAAAAC TGACCTCCCA TCTAGTGATC GAGAATTTTA CAATAAGGCT        2220

TATGACTTAC TAGCAAGAAT TCACCAAGAT TTACTTGATA ATAAAGGTCG ACAAGTTGAT        2280

TTTGAGGCTT TGGATAACCT GTTGGAACGA CTCAAGGATG TCTCAAGTGA TAAAGTCAAG        2340

TTAGTGGAAG ATATTCTTG                                                    2359
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(2) INFORMATION FOR SEQ ID NO: 244:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1052 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 244:

```
TTCTTTCTGC TATAATCGTA TAAAATACTT ACTTTAGGAG TTCTTATGAA AGTTGTTAAA         60

TTTGGAGGTA GTTCTCTTGC CTCTGCTAGT CAATTAGAAA AAGTTTTAAA CATCGTCAAA        120

AGCGATTCAG AGCGTCGTTT TGTAGTCGTT TCTGCGCCTG GTAAACGCAA TGCTGAAGAT        180
```

1267

ACTAAGGTTA CGGATGCCCT GATTAAATAC TACCGCGACT ATGTTGCGGG TAACGATATT   240

AGCAAGAACC AAAGCTGGAT TATCGACCGC TATGCTGCTA TGGTTAGTGA ATTGGGACTA   300

AAACCAGCTG TGCTAGAAAA AATTTCTAAA AGCATTCACG CCTTGGCCAC TCTTCCTATT   360

GAAGAAAATG AATTTCTCTA CGATACTTTC CTAGCAGCCG GTGAAAATAA CAATGCCAAA   420

TTGATTGCTG CCTACTTTAA CCAAAATGGT ATCGATGCAC GCTATATGCA CCCTAGAGAA   480

GCTGGGATTG TGGTCACAAG TGAACCTGGT CACGCTCGCA TCATTCCATC AAGTTATGAC   540

AAGATTGAAG AATTGACAAA CACCAATGAA GTCCTTGTCA TTCCTGGTTT CTTTGGTGTC   600

ACTAAGGAAA ATCAAATCTG TACTTTCTCA CGTGGAGGTT CTGATATTAC AGGTTCTATC   660

ATTGCTGCTG GTGTCAAAGC TGACCTCTAT GAAAACTTTA CGGACGTTGA TGGTATCTTT   720

GCAGCCCACC CTGGTATTAT CCACCAACCA CACTCGATTC CTGAGTTGAC CTACCGTGAA   780

ATGCGCGAGT TGGCCTATGC AGGCTTCTCA GTCCTTCATG ACGAGGCTCT TCTTCCTGCC   840

TACCGTGGAA AAATTCCTCT GGTTATCAAG AATACCAACA ACCCTGACCA TCCAGGTACT   900

CGTATCGTTC TAAAAACACAG TAATGATGAA TTTCCAGTTG TGGGAATTGC TGGTGACTCA   960

GGCTTTGTCA GCATTAACAT GTCGAAATAC CTCATGAACC GTGAGGTTGG ATTTGGCCGC   1020

AAGGTTCTGC AAATCCTGGA AGAACTTAAC AT   1052

(2) INFORMATION FOR SEQ ID NO: 245:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 855 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 245:

CCCTCGAAAA CTAAGCCGAT GAAGTCAGAA CACTTCAATC CTGTTCGTGA CTGGTGGGAA   60

AATCGTGAAG AGATTCTGGA AGGTAAGTTC TACAAATCTA AATCATTTAC ACCTAGTGAA   120

TTGGCTGAGT TGAATTATAA TTTAGACCAG TGTGACTTTC CAAAAGAGGA AGAGGAAATC   180

TTAAATCCCT TTGAGTTGAT TCAGAATTAT CAAGCGGAAA GAGCAACTTT AAATCATAAG   240

ATTGATAATG TATTAGCTGA TATTTTGCAG TTGTTGGAGG ACAAATAATG ACACCAGAAC   300

AACTTAAAGC AAGTATTCTC CAAAGAGCGA TGGAAGGGAA ATTAGTGCCG CAAAATCCCA   360

ATGACGAACC TGCAAGTGAA TTATTAAAGA GAATTAAAGC TGAAAAAGAA AAACTTATCA   420

GTGAAGGAAA AATCAAACGA GATAAAAAGG AAACTGAGAT ATTTCGTGGT GATGATGGGA   480

1268

AACATTATGG GAAGTTTGCT GATGGAAGCA CTCAAGAAAT TGATGTTCCT TATGATATTC   540

CTGATACTTG GGAGTGGGTG AGGATAAAAT CAATTTATTG GAATTTTGGG CAAAATAAGC   600

CAGAGAAATC CTTTAGGTAT ATAGATACGT CTAGTATTGA TAGAAAAAAG AACATAATCA   660

ACTACAAAAA TCTACAATAT CTTTCACCTG AACAAGCGCC TTCCCGTGCT AGAAAATTAG   720

TTTCGCAGAA TAGTGTCTTA TTTTCAACAG TTAGACCATA TCTAAAAAAT ATTGCTGTAG   780

TTAGAGAACT TAAAGAGTAT TTGATAGCTA GTACAGCATT TAATGTTTTG GGATACTTTA   840

CTTAACGAAA CATAT   855

(2) INFORMATION FOR SEQ ID NO: 246:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 660 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 246:

TTTAGGAAGG CTATCCGTAA TTTTACAAAG GATTTAGATA TTACAGAGGA ACATTTAGAT   60

ATTATCAAAA GAGAGATGTT TGGCGAATTT TTCAGTAGCA TGAACTCTCT TGAATTTATT   120

GCAACGCAAT ATGATGCTTT TGAAAATGGT GAGATAATTT TTGATTTGCC GAAAATTTTA   180

CAGGAAATTA CTTTAGAGGA TGTCCTTGAT GCTGGACATC ATTTAATAGA TGATGGTGAC   240

ATAGTTGATT TTACAATATT CCCATCGTAG TAACCTATTA TAATAGACAC TAGAAAGAAG   300

GGATGACAAG TATGAGAAAA AAAACAATTG GAGAGGTTTT ACGATTAGCT AGAATCAATC   360

AGGGATTGAG TTTAGATGAA TTGCAGAAAA AGACAGAAAT CCAGTTAGAT ATGTTGGAAG   420

CAATGGAAGC AGACGATTTC GATCAACTTC CAAGTCCTTT TTACACGCGT TCTTTCTTGA   480

AAAAATATGC ATGGGCTGTT GAGTTAGATG ACCAAATTGT TTTGGATGCT TATGATTCTG   540

GGAGTATGAT TACTTATGAG GAAGTAGATG TTGATGAAGA TGAGTTGACA GGTCGTAGAC   600

GTTCAAGTAA GAAAAAGAAG AAAAAAACAT CATTTTTACC TTTATTTTAT TTTATCCTGG   660

(2) INFORMATION FOR SEQ ID NO: 247:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1805 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 247:

1269

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CCGGTTGCAC AGGATCGTGC ATAGTCAACT CTTCAAGTAT AGCATATCTC CTATTTTCTT        60

ACAAGTAATA ACACCTAAAA TGAAGCTTTT TCTTTTACTT TTTTCTGCCA AGAGGCAAAA       120

AGCATGCTGA GGTAAAAAAC GCTCATCATA ATAGGAACAC CAAGAATGGT CTTTTCATGA       180

TAGAAAATCG TCAAATAGGC TGAAAGACA ACGCCAAGGA CAAAACTACT AAGCAGGCTA         240

ACAAATATGA ATCCTTCACG CAAAAAAGGA GTGTGCTTGG TTCGGAAATA ATCTCCAAAA       300

GCCAGCATGG TCCGTTTGAT ATTCCCTGTC ATAAAAGCGT TATTATAGGC AATACCCGAC       360

ACTTCTCCAA AAGCAGTTGT CACCAGTCCC ATACAGAAGG CCAAGGGCGG CACTAGATAG       420

ATATTATCCA CAGTTTGCGG CACAAAAGCA ATAATGATTG ATAAGATTGC CAAGGGAATC       480

AAGGACAGAA TAGGTTTTTT CACAATTCTC AATTTTTCCT TATAAATCGT TAATAAAAAG       540

ACTCCCATCA TAAACGCTAG CAAGGTGAGA ACCTTGTCCC TAACATCCGA AACATTATTT       600

TTAATTAATT CTACTGAAAG AAAGACAACA TTTCCAGTTT GTCCAGCTAC AAGGGTATTC       660

CCGCGAACAA TAAAAGTGTA AGCATCCACA TATCCAGCAC AAAACGTCAA AAAAAGTGCT       720

AACCTTTTAG ACTGACGTGA TATTTTTCTT ATAGGTAATA ACCTCATTTT ACCTCCCATT       780

GTATTTTCTC TTAGAAATAT TGTACCATTT TCTTTCTAAA AAATCGTAGG CTACCATTTA       840

GATTTTACTA TTAGCATAAA AATAATAATA GACAACTATT TATCCAAAAA TAGATAGATG       900

TAACATGTTT GCAAACAAAG CATACGAACC TTTAGTAAAA TCATTTCCAT GAAACTAGAA       960

TAGAGCCCTC TTAGCAAAAA TCATTATTTT AATTTATTTC TAATCACTCC TTGACATAAA      1020

TAACTCTCAC CAATAAAAGA CTATGTCTTA AAAAAATGGT ATAATAAAAT CAATACTTGG      1080

GCTTGATGGC TATGCTACTA ATAACAATTA GGAGAGAAAA TCAGGCACTT GTTAACAACA      1140

AGGATTATCC CCTTGAGATG AAAGGAACTT TAGAAATCTT ATGATGAACA TGCAAAACAT      1200

GATGCGTCAA GCACAAAAAC TTCAAAAACA AATGGAACAA AGCCAAGCTG AACTTGCTGC      1260

TATGCAATTT GTTGGCAAAT CTGCTCAAGA TCTTGTCCAA GCGACCTTAA CTGGCGATAA      1320

GAAAGTTGTC AGCATTGATT TCAATCCAGC TGTCGTTGAC CCAGAGGACC TTGAGACTCT      1380

TTCTGATATG ACCGTTCAAG CCATCAACTC TGCTCTTGAA CAAATCGATG AAACTACCAA      1440

GAAAAAACTG GGTGCTTTCG CTGGGAAATT ACCTTTCTAA AAACAAGGAG CTAGAACAAT      1500

GCTTGTCGAT AACAAAGGCT AAGAAAGGTG CAAAAATGAC TCTATAATAT TTGTAGTGGG      1560

TAAATCCCCT ATGGATATTA TGGAGCCTAT TTTTGTGTAG AAAAAAGTCC CATATGACCT      1620

ATAATGAAAA GCGACAAAAC AACTCATTAG AAAGAATCAT ATGGAACAAT TACATTTTAT      1680

CACAAAATTA CTAGACATTA AAGACCCTAA TATCCAGATT TTAGACATCG TCAATAAGGA      1740
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                                    1270
     TACACACAAG GwAATCATCG CCAAACTGGr CTATGAAGCT CCATCTTGTC CTGAGTGCGG   1800

     AAGTC   1805

     (2) INFORMATION FOR SEQ ID NO: 248:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 2516 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: double
               (D) TOPOLOGY: linear

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 248:

     CTGCATCTAG TTTGTTTCTC CCTACAGTTT TAGCTAGACA GATTGGAGAT TATGATTTAA   60

     CGTCGCCGCG TTGGGGTTCG GATACAACTA GTGAGCTTGA GAAAGAAAAC TCCTCTGCTG   120

     GAATTAATAA TAATGACAGC ACTGGTGGCG GTAAAAGGTT AAATACCTCT ATTCGTAGCG   180

     CCTATAGTGG GTCAGATATT ACCCCGGTAT ATTCATTGGG GTCTGGCTCT AGGATTGTCA   240

     TGTACTATAA TGGAGGTGGT GACAATTATA TTGGTTCTGG TACTAGATTA GCTATGGCGC   300

     CACAATTTGG AAATCATGTA AGAATTCATA CTTCAGGTTC TTGGAATCCA GATTCTTATT   360

     AACTTACTTG TCAGAGTAAG CCTTAAAGAT GGTTGATTGT GGGTGTAGCA TGAAAAAAGA   420

     ATGCTACACC CTATTTTTAT TATAAGGAGG AGTAAGGATG GAATTTTTCA TTTGTAATCT   480

     TGTACGAGTC GTTCAATCAC CTCGATTTTA TATGTCTTTA TTTTTGACCC TTCTTTGCAT   540

     GAGTTTAGGA AATTTCCTTG CTTTCAATGG TATTTATAAA ATTGAAGGTT TATCGATTTT   600

     TTTTGCCGCT TCTTCTATTC GAGGATTTTC ACCGATTAGC CTAGTAGCTG CACTTATCTG   660

     TACACTGCCC TATTCTAGTC AGATAATAGA GGATGCTGAG AGTCATTTTC TAACAGCACA   720

     ATTGTGTCGA ATTTCTAAAA AGAAGTATCT GGCTATTGTG GGTAGTACTG TAATTATTTC   780

     TTCTTTTCTA GTCTTTTTTC TCCCCTATTT ATTATTATTA GGAATTAATC TTTTAGTGAC   840

     TCCTTATCAG GAAATTTATA TTGGAGATTA TAGTGGTGCC TTAAAAGAAT TATTTGATTC   900

     CAATCAGTTT CTCTATAGTC TTGTAACGAC TCTCTGGTAT GGAGTTTGGG GCGCTGTGTT   960

     CTCTATTTTT GGACTAGCTA GTGCTTTGCT AGTGAAGAAA AAAATAGGAG CTATTTTCAT   1020

     CCCAGTTGCC TATATGATGG TTGGTGGTAT TTTTTGGGCT ATTTTAGGGC TATCTTACTT   1080

     AGAACCTGTG ACAACGCTAG CTTTGGGATA TCAGAAAGAT ATCAGTCTTT CCTTAGTTAG   1140

     TGCTCATCTT GCTTTTATTT TATTTGTTAG TTGTTTGGTT GTTTATGGTA CATTTTTTCT   1200

     ACATTCAGAG GACTATGTAT AATGAAACAA TTTGTTCAAT TTTATAAAAA AGATTTCTTA   1260

     GCAGTATTGG TTTATTTTAT ATTACTGCTA TCCTGTGTTT TATCTAGTAC AGTATATTTA   1320

1271

TTGCGCtGTC GCCAATATTC AATCCATCCA AATGTATTAG AATGGATCTT AGTTTTACTT   1380

CAAGATATGA CGACTGGAGT ATATTGCTTT CCGTTCACAT ATATATTGTT CTTTTTTTAT   1440

TTGATGAATA ACTATTTTAA TAGGTTGGAG TGTCGCATTC GTCTGAAATC AATTAAGCAC   1500

TTTACCAGTT TTAGTTTCAA ATTAGCAGCT CTTAGTACGG GGATTTGGAC GGCGACTTTA   1560

TTTTTATTGA TTTTTCTAAT TGCATTTAGT AATGGTTTTA GCTTCTCTTT GGAGATAAAG   1620

GAGGTTGATT TTTTAAGAGA ATTTTATGGT ATAAGTATTG CAAACAATGC TAGTTTCTTT   1680

ATAGGATTTT TTTTCTCTTA TATAGCATAC TATTTCTTTT TATCCTTACT TACTATTAGC   1740

AGTTTTTCTT GGTTTAAAAA ATCAAACATG AGCTTAGTAT TTCTGTTTAC TTTTTTTATTT   1800

GTAGAATCCT TATTCTGGAT TTATCAGTTG GACAATGGGA TAATTGGATT ATTGCCAATT   1860

TTTCAGTATA TGGTAAATTC CAATCCGTAT GCATTGATTT ATTGGCTTAC ATTACTATCT   1920

ATCATAATTC CATTGACTGT ATTTTCTGTT CATAGAAACT GGAGGAGAGT GTAAAAGTTG   1980

GAAATGGGAA AGTTAAGTAG TCACATGTGG AGGTTGAATC AGATAATCTA TACCAAGTAC   2040

TTTTGGGGTT ATGTTCTTTT TTGGATATTG ATTTGTTTAG GATTATGGTA TTGGTTAGAA   2100

GGAAATGATA GACTTGTTAT AGAAATTTTA AAAGGGCCTA ATCTGAGTCA AAACTCTTTT   2160

TTAGTCTTAT CTATATGGTT GCTTCATTGG TTTATTATTC ATACATTTTT TCTAGCAGTT   2220

GTATATCGTA GAAGAGCATC CGATTTCTTT ATGGAAGTGA TTCGATTTTC TTCTATTAAG   2280

CTCTGGATTA GGTATCAGAT TTGGACCTGT TTTCTTTATG GACTCATTTT AATCATGGTA   2340

AAAGTTCTAG TGATTCAATT TATGTTACAG TTACCAAACT GGGATATAGG AGTTTTGTTT   2400

ATAGTTGATT CTTTGAATGC TTGTGTGTTA GTCTTGTTTT GCTTTATGTT ATACGCACTA   2460

GGAGCGAATG TACAAATGAA CTTTGCTTGC GTTAGTTTCT TTTTACTCAT GATTGG   2516

(2) INFORMATION FOR SEQ ID NO: 249:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1364 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 249:

CGGTGTTTTT TTGTAAATTT TCTAGCACTT GTATGGTAAA ATAGATACAG GTGTTCATTA   60

AACTAGACTA AAAACCTATT TAAGCAGGCA AAATGAAGAA ATACCAACAA TTATTTAAGC   120

AAATCCAAGA AACCATTCAA AACGAGACTT ACGCTGTCGG AGATTTCCTT CCTAGCGAGC   180

1272

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ACGACCTTAT GGAGCAATAT CAAGTGAGTC GTGATACCGT CCGAAAGcCC TGTCTCTCCT    240

CCAAGAGGAA GGATTGATCA AAAAGATAAG AGGGCAAGGT TCTCAAGTCG TCAAAGAAGA    300

AACCGTCAAT TTCCCTGTAT CCAACCTAAC CAGCTACCAA GAACTAGTTA AAGAACTTGG    360

ACTGCGCTCT AAAACCAACG TGGTCAGTCT GGACAAGATT ATTATTGATA AAAAATCCTC    420

ACTGATAACC GGTTTCCCAG AGTTTCGGAT GGTTTGGAAG GTGGTCCGCC AGCGTGTGGT    480

GGATGATCTG GTATCCGTTC TGGATACGGA CTATCTGGAT ATGGAACTCA TCCCAAATCT    540

CACTCGCCAA ATTGCTGAGC AGTCTATCTA TTCTTATATA GAAAATGGCC TCAAACTCCT    600

TATTGATTAT GCTCAGAAGG AAATCACCAT TGACCACTCA AGCGACCGAG ACAAGATTCT    660

CATGGACATT GGCAAAGACC CTTATGTCGT TTCGATTAAA TCAAAAGTCT ATCTCCAAGA    720

CGGACGCCAA TTTCAGTTTA CCGAAAGTCG CCATAAGTTA GAGAAATTTA GATTTGTAGA    780

TTTTGCAAAA CGCAAGAAAT AAAAGACTGA GACACCAGAT CTCAGCCTTT TTCGGCTCTA    840

TAATATTTGT AGTGGGTAAC CCCCCTATGG ATATTATGGA GCCTATTTTG TGTAGAAAAA    900

AAGTCCCATA TGACCTATAA TGAAAAGCGA CAAAACAACT CATTAGAAAG ATTCATATGG    960

AACAATTACA TTTTATCACA AAACTGCTCG ATATTAAAGA CCCAAACATC AAGATTCTAG   1020

ACATCATCAA TATGGATACC CACAAAGAAA TTATCGCTAA GCTGGATTAT GAGGCTCCAT   1080

CTTGCCCTGA TTGTGGAAGT CTAATGAAGA AATATGACTT TCAAAAACCG TCTAAGATCC   1140

CTTACCTCGA AACAACTGGT ATGCCTACTA GAATTCTCCT TAGAAAGCGT CGTTTCAAGT   1200

GCTATCATTG TTCTAAAATG ATGGTCGCTG AAACTTCTAT CGTCAAGAAG AATCATCAAA   1260

TTCCTCGTAT TATCAACCAA AAAATTGCGC AAAAGTTGAT TGAGAAGATT TCTATGACCG   1320

ATATTGCTCA TCAGCTGGCC ATTTCAACTT CAACTGTCAT TCGG               1364
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(2) INFORMATION FOR SEQ ID NO: 250:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1227 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 250:

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CCATGAAGAC CGCTTGGAAT TGGAATGGCA CAAGTCTTTG TTGAATGGTC TATTCCCATT     60

GACAATCGGT GGAGGAATTG GACAATCTCG TATGGCCATG TTCCTACTTC GCAAGAGACA    120

CATCGGAGAA GTGCAAACAA GTGTTTGGCC TCAAGAAGTC CGCGATACTT ACGAAAATAT    180

TTTGTAGAGA ATCGAACCGC AAGGTTCGGT TTTCTTTCTC TTTTTGTCTA TAATTTGGTA    240
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1273

TAATAAACAG TATGAAAATC GTATCAGGAA TCTATGGGGG ACGTCCCCTC AAGACACTAG   300

AAGGCAAGAC GACAAGACCT ACTTCGGATA AGGTTAGGGG AGCCATTTTT AACATGATTG   360

GTCCCTACTT TGAAGTGGGA CGAGTCTTGG ACCTTTATGC AGGTAGTGGT GGTTTATCTA   420

TCGAAGCAGT ATCGCGTGGC ATGTCCAGTG CTGTTTTGGT GGAGCGAGAC CGTAAGCTCA   480

GACCATCGTG GCTGAAAATA TCCAGATGAC CAAGGAAGTT GGAAAATTTC AACTCCTCAA   540

GATGGATGCA GAAAGGGCAT TGGAACAGGT ATCTGGGAA TTTGACCTCG TTTTCTTAGA   600

CCCTCCCTAT GCCAAGGAAC AAATCGTAGC AGATATTGAA AAAATGGCTG AGAGAGAGCT   660

TTTTTCTGAA GATGTTATGG TTGTGTGCGA GACGGATAAA GCCGTTGAAC TTCCAGAAGA   720

AATTGCCTGT CTGGGTATCT GGAAGGAAAA GATTTATGGA ATTAGTAAGG TGACAGTCTA   780

TGTCAGATAA GATTGGCTTA TTCACAGGCT CATTTGATCC GATGACAAAT GGGCATCTGG   840

ATATCATTGA ACGGGCGAGC AGACTTTTTG ATAAGCTTTA TGTGGGTATT TTTTTTAATC   900

CCCACAAACA AGGATTTCTC CCTCTTGAAA ATCGTAAACG GGGGTTAGAA AAGGCTGTGA   960

AACATTTGGG AAATGTTAAA GTCGTGTCTT CTCATGATAA ATTGGTGGTC GATGTCGCAA   1020

AAAGACTGGG GGCTACTTGC CTAGTGCGAG GTTTGAGAAA TGCGTCGGAT TTGCAATATG   1080

AAGCCAGTTT TGATTACTAC AATCATCAGC TGTCTTCTGA TATAGAGACT ATTTATTTAC   1140

ATAGTCGACC TGAACATCTC TATATCAGTT CATCAGGCGT TAGAGAGCTT TTGAAGTTTG   1200

GTCAGGATAT TGCCTGCTAT GTTCCCG   1227

(2) INFORMATION FOR SEQ ID NO: 251:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3652 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 251:

CCGGTCAAGT TAAAAACGCT ATTTCTTCCC ATTTTATTTA TTTTTTAGGA GTGGTAACGT   60

ATCAAAATAG CCCAAGCGTT CTCACCCGTG TGAGTTTGAA TAATGGAACC CGTTTCCAAA   120

ACAGAAATTG GCTTTTCAAC ATAAGCTTGT AAGCTTTCTT TCATCTCTTT TGCCCAATCA   180

TCACTACCAG AATATGAAAT TCCAATCTCT GCTACAGCAC GTTCAGAAAG CGATGTTATC   240

AACTCATCTA ACCATTTTTT AAATGTTTTA GTTCCACGAC CTTTAACCAT TGGCTGCAAT   300

TCATGGTCTT TCATTTGCAT GACAGCACGG ATATTGAGAA GAGAGCTCAA CAAGCCAGTT   360

1274

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ACACGGCTAA TTCGTCCACC TTTGACAAGA TTTTCCAAAG TTGAAACACC AATATAAAGC    420

TCTGTATGGT TTTTAACCTC TTCTACATGA GATAAAATTG CCTCCATATC TTTACCTTCT    480

TGAGCTAACT TCGCAGCCTC AACAACTTGG AATTTCAGGG CTTGGTCAGT GAAGGAACTA    540

TCAACAACAG TCACATCTGC AGTAGATAGG CTAGCACCTT GGCGTGCTGC TTCTACCGTA    600

CCCGAAAGAG CATGGGACAT ATGAATAGCA AGAATCTGGC CACCATCTTT GCATAGGTCT    660

TCAAAAATCT CAGCAAAGAC ACCTACAGGT GGCTGACTTG TTTTCGGAAG ATTCTTACTT    720

TCTTGCATCA ACTGAAGAAA TTTACCTTCT TCTTTCAAAT CCGCATCAGA ATAAACAACA    780

TTATCAATCA TTACAGATAA TGGAACAATT GTAATATCTA ATTGCTTTAC TAGTTCAGGT    840

TCAATAGTAA CAGATGAATC GGTTACAATC TTAATTTTTG TCATAGTATC AATCTTTCTA    900

TTTTAGGATT CAGATTGGTT TCCTTACTTC TAATTATATC AAAAAAAAGA TTAAAAATCC    960

TAATGGAGTC AATCAAATTT TCCGTAAAAT TTGATATAAT CAACTTATAA GAAAAGAGGT   1020

GTCCTATGAT TAAAAAAATT TACCCCATTT TTACCATTTT ACTAGGTGCT GCTATTTATG   1080

CTTTTGGACT GACTTATTTT GTAGTTCCCC ATCATCTCTT TGAAGGAGGG GCGACAGGCA   1140

TTACCCTCAT CACCTTTTAT CTTTTTAAAA TCCCTGTTTC CCTCATGAAC CTGCTGATTA   1200

ATATTCCCCT TTTCATCCTA GCTTGGAAGA TTTTTGGAGC CAAATCCCTC TATTCTAGTT   1260

TACTAGGAAC CTTAGCTTTG TCCGGCTGGT TAGCTTTTTT TGAGCATATT CCCCTTCATA   1320

TTGATCTTCA AGGTGATTTA CTAATCACAG CCCTTATAGC GGGAATCCTA TTGGGAATTG   1380

GCCTTGGAAT TATTTTTAAT GCTGGAGGTA CAACTGGCGG AACTGATATT CTAGCTCGTA   1440

TTCTCAACAA ATACACTCAT ATATCCATAG GAAAACTGCT CTTTATCTTA GATTTTTGTA   1500

TTCTCATGTT GATTCTCCTA ATCTTCAAGG ATTTGAGATT GGTTCCTAC ACGCTTTTGT   1560

TTGATTTTAT TGTTTCTCGT GTTATTGATT TGATTGGTGA AGGAGGATAT GCCGGCAAAG   1620

GCTTTATGAT TATCACAAAA CGTCCTGACC AACTTGCTAA GGCGATTAAT GATGACCTCG   1680

GAAGAGGTGT TACTTTTATT TCTGGTCAAG GCTACTATAG TAAAGAAAAT TTGAAAATCA   1740

TCTACTGTAT TGTCGGAAGA AATGAAATTG TGAAAACGAA GGAAATGATT CATCGAATCG   1800

ATCCTCAAGC CTTTATAACT ATTACAGAAG CCCATGAAAT CCTAGGAGAA GGCTTCACCT   1860

TTGAAAAAGA ATAAAAGAG GTAATGTCGT GACCTCAAAA GTTAGACTAA ATCATCTATC   1920

TTTTGGGTTA CAGACAACCT CTTTTTTATT TTATTTACTC AAGCTCTTAA GACCAATTCC   1980

GAGTTACTTC TTCATCAGCC TTTAACTGAT CCACTAATTG GTCAACTGAG TCAAATTTGG   2040

TCATATCTCG AATGCGATCA AGCCAATAAA CCATGACGGT TTCCCCATAA ATATCTTGAT   2100

TAAAATCAAA AATATTGACT TCAAAACGTG CTTCTTCTCC ATCAAAGGTC ACATTTTTCC   2160
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1275

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CGACACTAGC CATAGCACGA TACTTCTGTC TTTGAATCTC AACATCAACA ACATAAACGC      2220

CATCTGCTGG CATATAAGTA CGGTCTAAAA GCACTAAATT CGCTGTCGGA TAACCAATTG      2280

TACGACCACG AGCATTACCA TGAACCACCA TACCTCTTGA TGGAAGCGGT GCCCCCAAAA      2340

GTTTTCCTGC TTCTTTCACA TTTCCATCTA AAATAGCTTG ACGGATACGA GTTGAACTAA      2400

TCTTTCCTTT CTCATCTTCT ACAGGTGGAA CAATGATAAC TTCTCCATCA AAGTAATTCT      2460

TTAAATCTTC TGCTGTTTTT TTGTCAGAAC CAAATGTATA ATCAAAACCT GCAACAATAA      2520

TTTTGGCATT CATAGCCTTG ATATAAGTTG CAAAGAATTC TTGTGCAGTG AGACTAGCGA      2580

ATTGACTACT AAAATCAAGG AGATATAATT CTTCTACACC TTCGCGCTTT AATTTTCTTT      2640

CACGTTCAGC AGGGTTCAAA ATATGCAAAA ACAAATCTGG ATGATAAGGC TCTAAAGCGA      2700

TCTTTGGAGA TTCATTAAAG GTCATAACGA CGATAGGCAA CAAATCCTTT CTCGCAGCCT      2760

TGTTGGCAAC ACGAAATAAT TCTTGATGCC CCTTATGTAT GCCATCAAAA TAGCCGAGAA      2820

CAACGACTGA ATCAGATGGT GTGCCAATAT CTTTTTGGTT TTTTATAGGA ATAGTAATAA      2880

TCATAAAATA ATTATATCAT AGCGATAGCT ATTTCTGGAA CAGAAAATCT GAAATGTTGT      2940

TTTTTTCACA TGAAGTGTAC CTGTTTTCAA AAAGCACTTT ATTCTATCGT TGCTTAACTA      3000

TGAACTTTGC AATATTCTTC TCAAAAACTT GTAGGACATC TTCAAAATTT TGCAAGGAGT      3060

GATTAGACTT GTTCGGTAAC CATAAAGTGT CATACTATGC TTATGTATGA AAAAGCAATG      3120

CAACTAACTC CTGAGAACTT TAAATTACTA ATTGGTGCCG AAAAGGTAGA ATTTAGAATC      3180

GAGGTACACC TATGGCTGTA AAATTTACAA AATGAGACAA CTTGGGCAAG ATGTTTGAAG      3240

AATTTCCTAA ACTCCCTGAT TTGAAGCAAG TCACTTTCCC TAATGACAAA GAAAAAAGCC      3300

AAAACAGCAA AGAAAAACTA GATGACTGCT TTCCAACAAC TCCCATCTAG TGTGCTTCAG      3360

ACTGGGCTAT TTTTCTCTCC ATCTGTTAGC TTGGATTCTC AGACCGTTTC AGCTAAAGAA      3420

TATCTTTTCC CTTATCAGAA GGAACGGCTC AAGCCATTCA GACAAGTGAA GGGACGACAA      3480

GCCAATATTT GAAACCAGAT AGCAGTTCTT ATAGTCAATT GAAATAAAAT CTGAAGAAAT      3540

CGAGTAGGAA ACTCATATCA ATGTTTAACA GTGTTCTATT CCAGATTCAT ACTCAATGAw      3600

AATTAAAGTG CAAACTAGGA AGTTAGCCGC AGGTGATACT TTGGGTACGG CA              3652
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(2) INFORMATION FOR SEQ ID NO: 252:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 743 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

1276

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 252:

GTACCGTGGT GCCAAAGTAC AGCAAGGTTG GCTTTTTGAC AAACAATACC AATCTTGGTT   60

TTACATCAAA GAAAATGGAA ACTATGCTGA TAAAGAATGG ATTTTCGAGA ATGGTCACTA   120

TTATTATCTA AAATCCGGTG GCTACATGGC AGCCAATGAA TGGATTTGGG ATAAGGAATC   180

TTGGTTTTAT CTCAAATTTG ATGGGAAAAT GGCTGAAAAA GAATGGGTCT ACGATTCTCA   240

TAGTCAAGCT TGGTACTACT TCAAATCCGG TGGTTACATG ACAGCCAATG AATGGATTTG   300

GGATAAGGAA TCTTGGTTTT ATCTCAAATC TGATGGGAAA ATAGCTGAAA AAGAATGGGT   360

CTACGATTCT CATAGTCAAG CTTGGTACTA CTTCAAATCC GGTGGTTACA TGACAGCCAA   420

TGAATGGATT TGGGATAAGG AATCTTGGTT TTACCTCAAA TCTGATGGGA AAATAGCTGA   480

AAAAGAATGG GTCTACGATT CTCATAGTCA AGCTTGGTAC TACTTCAAAT CTGGTGGCTA   540

CATGGCGAAA AATGAGACAG TAGATGGTTA TCAGCTTGGA AGCGATGGTA AATGGCTTGG   600

AGGAAAAACT ACAAATGAAA ATGCTGCTTA CTATCAAGTA GTGCCTGTTA CAGCCAATGT   660

TTATGATTCA GATGGTGAAA AGCTTTCCTA TATATCGCAA AGTAGTGTCG TATGGCTAGA   720

TAAGGATAGA AAAAGTGATG ACA   743

(2) INFORMATION FOR SEQ ID NO: 253:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4010 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 253:

TTTTGGTTGA TGATACGAGG GATTTGGTGA TTCTTCTTGA CGATAGAAGT TTCAGCGACC   60

ATCATTTTTG AACAGTGATA GCACTTGAAT CGACGCTTTC TAAGGAGAAT TCTAGTAGGC   120

ATACCAGTCG TTTCAAGATA AGGAATTTTA GAAGGTTTTT GAAAGTCATA TTTCTTCAAT   180

TGGTTTCCGC ACTCAGGGCA AGATGGGGCG TCGTAGTCCA GTTTGGCGAT GATTTCCTTG   240

TGTGTATCCT TATTGATGAT GTCTAAAATC TGGATATTAG GGTCTTTAAT GTCTAGTAAT   300

TTTGTGATAA AATGTAATTG TTCCATATGA TTCTTTCTAA TGAGTTGTTT TGTCGCTTTT   360

CATTATAGGT CATATGGGAC TTTTTTTCTA CAATAAAATA GGCTCCATAA TATCTATAGT   420

GGATTTACCC ACTACAAATA TTATAGAACC GAATTAATTT AATTAGAGAG CCAACTTTCT   480

AATATAGTAA TCGCGTCATA ACAAGGTATC TATCATTCAT GGAGTTCCTC CTGTATACTA   540

1277

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TTAGTAAAGT AAAACTATTG GAGGATATTT TAATGCCACA ACCTATTGTT CCTGTAGAGA          600

TTCCACAATC TCGTCGTTTT GATTCTAAAA AGAGAAATGA TATTCTGCTT AAAATTCGTA          660

TTGGCAAGCT TGAAGTAAGT TTTTTTCAAT CTCTCAATCT CGAAATGGTA GAACAGCTTT         720

TGGATAAAGT GTTGCTCTAT GACAATTCAT CTATCTAGCC TAGGGCAGGT CTATCTCGTA          780

TGTGGGAAAA CGGATATGAG GCAAGGCATT GATTCATTGG CTTATCTGGT TAAAACCCAC          840

TTTGAATTAG ATCCTTTCTC CGGTCAAGTT TTTCTCTTTT GTGGTGGACG TAAAGACCGC          900

TTTAAAGCCC TTTACTGGGA TGGTCAAGGA TTTTGGCTAC TATATAAACG CTTTGAGAAC          960

GGAAAACTGA CTTGGCCCAG TACAGAAAAG GATGTCAAAG CTCTCACACC TGAACAAGTA         1020

GATTGGCTTA TGAAGGGCTT TTCTATCACT CCAAAAATAA ATTTATCAGA AAGTCGTGAT         1080

TTCTATTGAA ATGAGGACTT TCTTTTTAGT TATAATAAAG TTAGGAAATA AGGAGAGGAA         1140

GCCCATGGAA GAAGATTGAA AATCATTCAA CAACAGAGTG CTACAATTGA TAGTCTCACC         1200

AATGAACTTG CCCTTCTTCG TGAACAAGTG GCTTATCTAA CGCAAAAGCT CTATGGAAAA         1260

TCCTCTGAGA AAAGTGTTTG CCCATCTGGA CAACTCAGTC TTTTTGAAGA GGAACAAAAT         1320

ATGGAAGAAG ACTCTGACTT ACCCAGTTGA AAGAGAAGAA ATCACCTATA AACGTAAGAA         1380

AGCTAAAGGG AAACGTCAAG CTCTTCTTGC CCAATTTGAT TCAGAAGAAG TTCATCATCA         1440

AGTAGAAGAG AGCATTTGCC CTGATTGTCA GGGAGATCTA AAAGAGATTG GAGCAACCCT         1500

TCAACGACAA GAATTAGTCT TTATTCCTGC GCAATTAAAA CGAATAGATC ATATCCAACA         1560

CGCTTATAAG TGCCAAGCAT GCAGTGATAA AAATCCGAGT GATAAAATCG TGAAAGCTCC         1620

TATTCCTAAA GCCCCTTTGG CGCATAGCCT TGGCTCAGCT TCTATTATCG CTCACACCAT         1680

CCATCAGAAG TTTAATCTGA AGGTACCCAA TTATCGCCAA GAAGAAGATT GGGCTAAGAT         1740

GGGTTTACCA ATCACACGTA AGGAAATTGC TAATTGGCAT ATCAAGGCGA GTCAATACTA         1800

TTTGGAGCCC CTTTATAATC TTTTACGAGA AAAGTTGTTA GAACAAGCTC TTCTTCATGC         1860

GGATGAAACC TCTTATCGGG TTCTAGAGAG TGATAGTCAG TTGCCTTACT ATTGGACTTT         1920

TTTGTCTGGG AAAGCTGAGA ATCAAGCAAT CACGCTGTAC CACCATGATC AGCGTCGGAG         1980

TGGTTTAGTA GTACAAGAAT TCCTAGGAGA TTATTCTGGC TATGTTCATT GTGACATGTT         2040

GCGGCAGTAA CTTAGGACTT TAGTCCTCTA GTTCTGCCTA TGCGATAGCA GTCCAAGGTT         2100

TAGGAGTAAG GCGACGCTAA GCTTGGTAAA CTGCGAACAG CTAGAAGCTT ATCGTCAACT         2160

GGAAGAAGCT GCACTTGTTG GATGTTGGGC GCATGTGAGA AGGAAGTTTT TTGAAGTGCC         2220

CCCCAAGCAA GCAGATAAAT CATCCTTAGG AGCTAAAGGT TTAGCTTATT GTGATCAGTT         2280
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ATTTTCCTTG GAAAGAGACT GGGAGGCTTT GCCAGCTGAT GAACGACTAC AGAAACGTCA      2340

AGAACATCTC CAGCCCCTAA TGGAAGACTT CTTTGCTTGG TGCCGCCGTC AGTCAGTTTT      2400

AGCAGGTTCA AAACTAGGAA GGGCAATTGA ATACAGCCTC AAGTATGAAG AAACCTTTAA      2460

GACTATTTTG AAAGACGGAC ATCTGGTCCT TTCCAATAAT CTAGCTGAAC GCGCCATTAA      2520

ATCATTGGTT ATGGGACGGA GTAAAAGAGT CCAGTGGACT CTTTTAGCCT GAGCTCAGTT      2580

TAAAAAAGCG AGGGTGGTTA TTTTCTCAAA GTTTTGAAGG AGCTAAAGCA AGAGCTATTG      2640

TTATGAGCTT GTTGGAAACA GCTAAACGTC ATCAATTATA GTGCGTTGAA TCTATAACAG      2700

TACGCATCGA CTGCTAAAAC ATTTCTATAA ATCAATTTTC CTTTCCTAAT CGATTTGTTC      2760

ATATCTTATT TCAATCCATT ATAAATAGCG AGAAATATCT ATCCTATCTT CTAGAATGTC      2820

TTCCAAACGA GGAAACTCTC GTAAACAAAG AGGTTTTAGA GGCCTATTTA CCGTGGACTA      2880

AAGTTGTACA AGAAAAGTGC AAATAAGAAA TCTCCAGATT AGGAACTATC CGTGAGTTCT      2940

CTAGTCTGGA GATTTTTCAA TAGACTTCGT TATTGGACGG TTACAATTTA TTATATGAAA      3000

ATCCCATATT ATTCTCCAAT TCTATATTTT ACCTTTCTAA ATGTATAGAT TAACTACCTA      3060

ATTATAGCAT ATAACGCAGA TTCCTTTCAA TCGTATGATT TACTGCATTA AATTAAGTAA      3120

AAAAATAAAG GCAGTCCGAA GACTGCCGAT ATTTATCTCT CATCTCTTTA ATTATGGTAA      3180

GTAAATAAAT AATTTCCCTA AAGATATGGA AATTATTAAT ACTATAAATA CATATTATAA      3240

AGTTTATAAA TACTGTAAAA ATCCTGAAGT TAATTTTCTA ATAAATATCA ATATGTGTTA      3300

GTATCTTTTA AATTTTTAGA CAATTTACTA GTTCTATAGA CATGTTTAAC AGACTCTATT      3360

TTACAATTCA AAAATTTCAT CTGCCACTTC ATTTAAAAAT TCTATATCAT GGGAAACAAT      3420

AAAAATTATT TTATCCATGG TTTTATACTT ATTAATCAGT TCAGATATTT TTATCATATT      3480

GGAATAATCC ATACCACTTG AAGGTTCGTC AAAAAAGACA AATGGAGAAT TCTTGCACAT      3540

AACAGATGCT ATTGCAAGCC TTTGCTTTTG CCCTCCTGAT AAACTCATCG GATGCCTTTC      3600

AATAAATTCG TCCAGGCATA AATCTTTTAA CCCAAATCAT TCATACCTCT CTCAACTAGA      3660

TGTAACTTAC AAAACCCCTG ACCTCATGAG CCACTTTCTT CCTCCTCATG AGGTCAGTTT      3720

TACTTTCTGC TGTTCCAGTA TCGTTTTTCC TCGCTAGATT TCCTCAAAAG GGCAGACTCC      3780

TCCCTTGGTT CGTCACACGA TTTTTTCATC TCGACTGTTC TTTAATGCAT CATTAACGAC      3840

GCTTTTCTTC TAGGTGGTTC ATAAGGAACA GGAAGATTCA GGTTGACTTT TCTAATCCTA      3900

GAATAAAGTG CTGAAAACAA TTCGGAATAG GCATAGAGAC TAGACAATTT GAGGAGCTGC      3960

TTGCGTCCTG TTCGAACACA TTTTCCCACC ACGTGAAGAA AAAGATGGCG               4010
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(2) INFORMATION FOR SEQ ID NO: 254:

1279

(i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2789 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 254:

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ATGCATCCGT TTGTCAAGCC TAAATTGTAA TTTTTTTCAA TTTAAAACAG AAAAACCCAG        60

GAAAATGACA TAAAAATATC ATTCCTAGGC CTATTTATGC TATTTCTCTC TGAAAAATAT       120

GAGTATTCAG TCGGTCAAAT GAAGCTGAAC GAACTCATTT TCCCTCGCCT AATTCAATGA       180

TTCGATGACA TTGTTGGGCT ACATAAGCAT CGTGGGTCAC GATAATGACT GTTTTCCCCT       240

CTCGATTCAT CTCTAAGAGA AACTTCAAGA CCAAATCTCT ATTTTCAGGA TCCAGAGAAC       300

CTGTCGGTTC ATCGGCTAAA ATCAGCTGGC TGGGTTTTAA GATGGCTCTA GCAACTGCAA       360

TTCGTTGTTG TTCGCCCCCA GACAACTCGG AGACCCTTTG ATGCAAAGTA GCTGATAAAC       420

CTACTCTCTC TAAAATCTCT TCCACCTTTT TGAGCTTGTC TTTCTTAGGC AATTTCACAT       480

ATTTCAGCGC CACATGAGAT TGTACTCGAC CGTTTCATCA TCAATCAGGG CAAAATTTTG       540

AAACAGATAA GAGATATGTT CACGGATTAT TGTTTGCGAC TTAGCAGAAT TAACCGCTAG       600

ATTTGTCTGA CCAAAAATCT CATACCGTCC GCTATAATCA CCATCTATCA AACCCAATAA       660

ATTTAACAAG GTCGACTTCC CACTACCACT CTTACCAACA ATAGCTACCA AATCCCCCTG       720

ATCAATCCTG AGAGATAAGT TATCCAAAAT CACTTTTCCC CCAATGGTTT TGGTAATATT       780

TTTCAACTCA ATCATAAGAT GCCCCCTTTC AATAACTCTA CTAGACTTCT TTTCTCCATC       840

CTAGAAGCTA AGCCTAGCAC AAATAGTATA TCCAGACATG TAAAACCTGC AAACAGTAGA       900

AGTGGTAAGA ACGCATGGGC AAAGAAAATC AAGACTAGAA GAGGGAAACT ATAGCCCAGC       960

AAGAGCAGAA CGAGGAGAGG ACGGTAGCGA TCGACCAGTT TCCACCCCAT AAACTTCTTG      1020

GTAATGATAT CCCTGCGCTT CAATAAGAAA GTTGTTACTA GTAAGAAGTA GGAAATCATC      1080

ATGCTAAGGA GACCAAACAA AGCAAAGAGT AGGTTAAAAT TCCGAACAGC ATCTCGATAA      1140

GAATCCACTT TCTCTTGTTG AATGGCTTGA ATAGATGAAA ATTTTAAATA ATTTCCATCT      1200

GACAATTTCT CAACTAACTC TGTAATCTCT TTTTGATGTT GAACCGTATT TTCAATTTTA      1260

ATCGGATTAT TTAAGCCAGT TGTTGACAGG GAGGCTTTCT CATCCCACAT CATATCAGAA      1320

TCATTGACCA AGCTAATAAT TGGATTGGAG AGATTTTCCT TTCGCTTATC ACTATATGGG      1380

AAAAATGACC AATCTCCTTC ATAATAGGCA ATCTCGACAT CCATCTCCTC TATCGTTCGT      1440
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                                        1280
TTTTGCTGCT CTTCATACTT CATCGAATGA AAGGCAATTA ACTTCCCCAA GAGCTGATTT   1500

TTATCTTCTT CACCTTTCGT ACTTGCTGGC ATCAAAATAA CTTTTTTAAT ACCGGTATTT   1560

GGTAGCTTGA ATCCCTTGCT CTTTAGAAAA TTGCGATTGG CATAGTAAAC ATCCACCGTA   1620

TCTGTTAACT GATATTGCTG AATCTGTTCT GATTGGACAA AATTTTTTAC AGGAAGACTG   1680

CTACTCTGCA CATAGCCCGC CTGCGTTTTT TCTACCAAAT CCTGATAAAA TCGATAGAAA   1740

TAATCTGTAG ATTTCCCTGA CCCTGCTAGC TCTTCTTGCC ACAGATTATC ATTGAGTTTG   1800

AAGGTTTCTA AGGTCAGGTA ATTACCTTGA CTTACCCACT GTTGCTGATA AGCAAGTTCT   1860

TTGTTTTCTT GTTCTAAACT TCTGCCCACC CCAATCAGTA AGGCCGTCAG TAAAATAGTT   1920

GTCCCTATTT TCATCACATA ATTGAAGATA AGACCAAATT TGAAAGATGA AAAACCTTTC   1980

AGCAGAGAGC TGATTGTCAT TTTTTGGATT AAGAGGTAAG TCAACCAACT GATAAAGAGA   2040

TAAAGCTGCA ACAGCAAAAA ATGAGACAAC CACAGCATAG GAAACAAATC TTTTGGCTTA   2100

TAATCAAGCA AGAAAAACAC GCCTAGATTG ATCACAAGAG CCCCACCTAG GAGGAGGTAA   2160

AGGTTGCCTT TTACAACATC AGCTAAAACA GCCCTATCTT GAAAACCAAG TAATTTTTGT   2220

ACCCCAACTC TTTTCATCTC CATCATCGGT TGATACACTG TCACTAACAC AAGAAGCAAA   2280

ATAGCCAAGA CAAAAACAAT GGCAGATAAA AGCAAATCTC GATTTATGAC TTCCACTGCA   2340

CTTTTGTAGG TCGGCTCTAG CAAGGTAGCC TGGTCTATCT TGAAAAAATC GCTCCATTTC   2400

TGTACAATCC TATCCTTGTC CATCTCTTGT GTAGAAGTTA TCGTATAGCG ACCATTTAAA   2460

CTACGAGATG TATCCTTGAT ATAGGTTTGA AAAGTCATAA GCTGAATAGG TTTGGCTTTT   2520

AGAAAGGTCG GAATCGTACC AAGTTTATTG GAAATTTCTT TATTACTATA GACTCCTTCA   2580

CCATCTGTGG TAAAATCAAG AGAAGAAATC CCAAACTCTT GGTAGGGGAA GGTATCTTTA   2640

TCAAAAACAC CAGACTTGAC CACCTCATCA CCACTGTCTG TTTTGATGAT GGAGACTTTA   2700

TACTCCTTTG ATACATCCTC AAAAAATCGA AGAACAGACG CTGCAGGTTC GTTAATATCT   2760

TTCAAATACA AATCCAAAGA ATCTACAGG   2789

(2) INFORMATION FOR SEQ ID NO: 255:

        (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 2495 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: double
              (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 255:

CTGCGAATTT TATTAAAGAT AATGTGTTAA TTACAGCGGC TCACAACTAC TACAGACATG   60

1281

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ACTATGGGAA AGAAGCGGAT GATATTTATG TTCTTCCGGC TGTTAGTCCA AGTCAAGAAC      120

CATTTGGAAA GATCAAAGTA AAGGAAGTTC GTTATTTGAA GGAATTTAGA AATTTAAATT      180

CTAAGGATGC AAGGGAATAT GACTTGGCTT TATTAATTCT AGAAGAGCCC ATTGGTGCAA      240

AATTAGGGAC TTTGGGTCTT CCTACTAGTC AAAAAAATTT GACAGGAATA ACTGTGACTA      300

TCACAGGCTA TCCATCATAT AATTTTAAAA TTCATCAAAT GTATACAGAT AAGAAACAAG      360

TTTTAAGTGA TGATGGCATG TTCTTGGATT ACCAAGTTGA TACTTTAGAG GGGTCTAGTG      420

GATCTACAGT TTATGATGCT AGTCACCGTG TAGTAGGAGT GCATACTTTA GGAGATGGAG      480

CTAATCAAAT TAACAGTGCA GTTAAATTAA ATGAACGAAA TTTGCCATTT ATTTAwTCGG      540

TTCTTAAAGG TTACTCTCTT GAAGGATGGA AGAAAATAAA TGGTAGTTGG TACCATTATA      600

GACAACATGA TAAACAAACG GGTTGGCAGG AGATAAATGA TACCTGGTAT TATTTAGACA      660

GTTCCGGTAA GATGCTTACA GATTGGCAAA AAGTCCATGG AAAATGGTAT TATCTCAATT      720

CAAATGGAGC AATGGTTACA GGTAGCCAAA CTATCGATGG TAAAGTTTAT AACTTCGCTT      780

CATCTGGTGA GTGGATTTAA TGTTGGAGGA TATATAAAAT GAAGCTTTTG AAAAAAATGA      840

TGCAAATCGC ACTAGCCACA TTTTTCTTCG GTTTGTTAGC GACAAATACA GTATTTGCAG      900

ATGATTCTGA AGGATGGCAG TTTGTCCAAG AAAATGGTAG AACCTACTAC AAAAAGGGGG      960

ATCTAAAAGA AACCTACTGG AGAGTGATAG ATGGGAAGTA CTATTATTTT GATCCTTTAT     1020

CCGGAGAGAT GGTTGTCGGC TGGCAATATA TACCTGCTCC ACACAAGGGG GTTACGATTG     1080

GTCCTTCTCC AAGAATAGAG ATTGCTCTTA GACCAGATTG GTTTTATTTT GGTCAAGATG     1140

GTGTATTACA AGAATTTGTT GGCAAGCAAG TTTTAGAAGC AAAAACTGCT ACGAATACCA     1200

ACAAACATCA TGGGGAAGAA TATGATAGCC AAGCAGAGAA ACGAGTCTAT TATTTTGAAG     1260

ATCAGCGTAG TTATCATACT TTAAAAACTG GTTGGATTTA TGAAGAGGGT CATTGGTATT     1320

ATTTACAGAA GGATGGTGGC TTTGATTCGC GCATCAACAG ATTGACGGTT GGAGAGCTAG     1380

CACGTGGTTG GGTTAAGGAT TACCCTCTTA CGTATGATGA AGAGAAGCTA AAAGCAGCTC     1440

CATGGTACTA TCTAAATCCA GCAACTGGCA TTATGCAAAC AGGTTGGCAA TATCTAGGTA     1500

ATAGATGGTA CTACCTCCAT TCGTCAGGAG CTATGGCAAC TGGCTGGTAT AAGGAAGGCT     1560

CAACTTGGTA CTATCTAGAT GCTGAAAATG GTGATATGAG AACTGGCTGG CAAAACCTTG     1620

GGAACAAATG GTACTATCTC CGTTCATCAG GAGCTATGGC AACTGGTTGG TATCAGGAAA     1680

GTTCGACTTG GTACTATCTA AATGCAAGTA ATGGAGATAT GAAAACAGGC TGGTTCCAAG     1740

TCAATGGTAA CTGGTACTAT GCCTATGATT CAGGTGCTTT AGCTGTTAAT ACCACAGTAG     1800
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GTGGTTACTA CTTAAACTAT AATGGTGAAT GGGTTAAGTA ATGAAGGCTA ATTGTAAACT        1860

GTGATGGATA CTTAACTTTG TATAATAGGT GGATAAAAGT CTTCACAATC AAAAAACGCA        1920

TAGTATCAAG GTTTTTCTGT ACTGCCCTCA AACAGTTAGA CAATTAATTT ATCCGAAGgA        1980

TTTAGTTCTG TATTGCACAG GGCTAAGTCC TTTTAGTTTT ACCTTAATTC GTTTATTGTT        2040

GTAGTAATCA ATATAGTCTA TAATGGCTTG TTCCAATTGC TTAAGCGACT GAAACGACTT        2100

CTCATAACCG TAAAACATTT CCGATTTCAG AATCCCAAAG AAGGACTCCA TCATACTATT        2160

GTCTGGGCTG TTTCCCTTAC GTGACATGGA TGCTTGAATT CCCTTACTCT CTAGGAACCG        2220

ATGATAAGAA TCGTGTTGGT ATTGCCAGCC TTGGTCACTA TGGAGAATCG TATTCTCGTA        2280

GTGCTTCTCT GTGAATGCCT GTTCCAACAT TGTTTGTACT TGTTCTAAGT TGGGTGAAGT        2340

TGAAAGATTA TAGGCGATAA TTTCGCTATT AAAGCCATCT AAAACTGGTG ATAAGTAAAG        2400

CTTTTGAGTA CTTGCTGGAA TGGCAAATTC TGTCACATCT GTGTAGCACT TTTCCATTGT        2460

TTTAGAGCCT TCAAATTGGC CTTGAATGAG ATTCG                                   2495
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(2) INFORMATION FOR SEQ ID NO: 256:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 870 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 256:

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TACCACCGTA TTCATCCAGC AAGATTGCCA TTTGTCTTTG GGTATTTCGC AGTTCTTTTA          60

GCAAGTCATC CACAAAAATA GTTTCAGGTA CAAAAAGTGG ATCTTGTAAA ATTCTCTTCC         120

AAACAATATT GTCAAAACCG TCCACAAAGC CTGCCTTAAG GAGACTCTTG GTGTGAATGA         180

TTCCAATTAC ATTGTCCTTA TCCCCATCAT AAACCGGGAT ACGAGAATAA TTTTGTTTTA         240

AAATACTTTG GATAATGGCT TGACTATCAT CCTGAATATC CACCATAAAG GCATCCGTTC         300

GAGGAACCAT AACCTCTCGT GCCATCAGTT CATCGAGCGA AAAGACACCT TGTAGCATCT         360

CAATCTCATC AGCATCCAAT GTTTCTTCAC TATTTGTCAG CATATAGGCA ATTTCATCAC         420

GGGTCATCTT TTCATCCGCA TCATCGAATG ACATAGGAGT CAAATGGCTC AAGAAATTGG         480

TCGAAGCAGC TAAAAGCCAA ACAAAAGGAC TGACTAGTTT TCCGATCCCA ATGATAATCG         540

GCGCTGTACG AATTGCCAAG GCATCCTTTA GATTAAGAGC GATTCTCTTA GGATATAATT         600

CCCCAAAAAC GATGGAAATA TAGGTCAAAA ATGCCAAGGA TAGAAAAGTT GCCACGGCTT         660

GTGCTGTTTC GCCATTCCCA AGCCAAGAGG CAATCACACG TCCTAGAGTA TCAGTTAAAC         720
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1283

TCGCCCCTGA TAAGATTGTA ATCAGGGTGA TTCCTACCTG GATGGTTGAT AAAAAGTGGT   780

TAGGATTTTC TAGTACCTTC AGCAGGCGGA TGTAGCGTCT GTCTCCTTCT TCCGCCTTTT   840

GTTCAACTCG GGCACGATTA AGAGAAACGG   870

(2) INFORMATION FOR SEQ ID NO: 257:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1245 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 257:

CGTTCCCAGA AGCCCGCATT CTCATCGCCA ATGTCGTGAT TGATTTGGCC CTTTCTCCAA   60

AATCCAACTC AGCCTATGTA GCTATGGATA AGGCACTTGC TGACCTCAAA ACATCAGGGC   120

ACTTGCCTAT TCCGCGACAC CTGCGTGATG GGCACTACAG TGGAAGCAAG GAACTGGGGA   180

ATGCCCAAGA CTATCTCTAT CCACACAACT ATCCTGGAAA TTGGGTCAAG CAAGACTATC   240

TGCCAGAAAA AATTCGTAAT CATCACTATT TCCAAGCAGA AGATACTGGT AAATATGAAC   300

GGGCTTTGGC TCAAAGAAAG GAAGCTATCG ACCGTTTGCG AAAAATCTGA AATCCTTTTC   360

AAAAAATTGC ACTTTCCTCT TGATTTTTTT TGAAAAAGTG GTATCATATA AATATAGAAA   420

CGCTGTGGTG TACGACTTCA CACTTAAGTG TTGACCGACT ATTTTTTGTA TTATTAGGGA   480

AACAAAAGTC TTCTAACAGC ATGTAGGCCG TCTCACACGG AAACAGCTTC AGTTAGAGCG   540

AGTTGCCCAC CTGCTTAATT GCGCGGGTTC AATACAAACC GTGAAGTTTC GGCACCAATA   600

CAGCTTTTTT CTTTGCCTCC TTAGCTCAGC TGGCAGAGCA GCGGACTCTT AATCCGTGGG   660

TCACAGGTTC GATCCCTGTA GGGGGCATAT AAATACAACA GGAAAAGCCT TATAATATAG   720

GGCTTTTTTT GCTTTCCTTT TAAAAATTGT CGTGCAATTT GCCGTGTTTT TACAACAAAC   780

TTTTCACAGC CATAAACTCC TCACTAATTT TTTCCTCCAA GGTATGCCCA TAAACGTCAA   840

TCAACATGGA GATATCTTTA TGTCCTAAAA TTTGGCTCTT TGTCAACTGT AGTGGGTTGA   900

AGTCAGCTAA GCTCGAGAAA GGACAAATTT TGTCCTTTCT TTTTTGATAT TCAGAGCGAT   960

AAAAATCCGT TTTTTGAAGT TTTCAAAGTT CCGAAAACCA AAGGCATTGC GCTTGATAAG   1020

TTTGATGAGA TTATTGGTCG CTTCCAATTT GGCGTTAGAA TAGTGTAGTT GAAGGGCGTT   1080

GACGATTTTC TCTTTGTCCT TTAGAAAGGT TTTAAAGACA GTCTGAAAAA GAGGAGGAAC   1140

CTGCTTTAGA TTGTCCTCAA TGAGTCCGAA AAATTTCTCC GGTGCCTTAT TCTGAAAGTG   1200

1284
AAACAGCAAG AGTTGATAGA GCTGATAGTG ATGTTTCAAG TCTTG   1245

(2) INFORMATION FOR SEQ ID NO: 258:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 1684 base pairs
      (B) TYPE: nucleic acid
      (C) STRANDEDNESS: double
      (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 258:

ATGCCTATGT AACTCCACAT ATGACCCATA GCCACTGGAT TAAAAAAGAT AGTTTGTCTG   60

AAGCTGAGAG AGCGGCACCC AGGCTTATGC TAAAGAGAAA GGTTTGACCC CTCCTTCGAC   120

AGACCATCAG GATTCAGGAA ATACTGAGGC AAAAGGAGCA GAAGCTATCT ACAACCGCGT   180

GAAAGCAGCT AAGAAGGTGC CACTTGATCG TATGCCTTAC AATCTTCAAT ATACTGTAGA   240

AGTCAAAAAC GGTAGTTTAA TCATACCTCA TTATGACCAT TACCATAACA TCAAATTTGA   300

GTGGTTTGAC GAAGGCCTTT ATGAGGCACC TAAGGGGTAT ACTCTTGAGG ATCTTTTGGC   360

GACTGTCAAG TACTATGTCG AACATCCAAA CGAACGTCCG CATTCAGATA ATGGTTTTGG   420

TAACGCTAGC GACCATGTTC AAAGAAACAA AAATGGTCAA GCTGATACCA ATCAAACGGA   480

AAAACCAAGC GAGGAGAAAC CTCAGACAGA AAAACCTGAG GAAGAAACCC CTCGAGAAGA   540

GAAACCGCAA AGCGAGAAAC CAGAGTCTCC AAAACCAACA GAGGAACCAG AAGAATCACC   600

AGAGGAATCA GAAGAACCTC AGGTCGAGAC TGAAAAGGTT GAAGAAAAAC TGAGAGAGGC   660

TGAAGATTTA CTTGGAAAAA TCCAGGATCC AATTATCAAG TCCAATGCCA AAGAGACTCT   720

CACAGGATTA AAAAATAATT TACTATTTGG CACCCAGGAC AACAATACTA TTATGGCAGA   780

AGCTGAAAAA CTATTGGCTT TATTAAAGGA GAGTAAGTAA AGGTAGCAGC ATTTTCTAAC   840

TCCTAAAAAC AGGATAGGAG AACGGGAAAA CGAAAAATGA GAGCAGAATG TGAGTTCTAG   900

TTCTCATTTT TTTCATGAAA ATGTGCAAAA TATAGTAGAT TGAAACTAGA ATAGTATACC   960

TCTACTTCTA AAACATTGTT AGAAATCGAT TTGACTGTCC TGTTCTTATT TCATTTTACT   1020

ATATCTTAAC AGATAGTGTA AATAAAGATA AACTATTTAC TGGCTAATTA ATCAGTTAAA   1080

CACTAGTTAA GGAGTAATGA TGAAAAAAAG AACAATACTA TTATTGATGG CCAGTCTGTT   1140

AGCTCTTGTC TTAGGAGCAT GTGGTTTCTT GGACATATTG ATCCTGGATC ATTCTCATCA   1200

GGATTACTCT TTACTGCTAT TTTAGAAACT GGGGTGGTTT GATGGAAAGT ATTGGTCTTG   1260

TTATCGTTTC ACATTCCAAA CACATTGCAG AAGGTGTTGT TGAACTGATT AGTAAAGTAG   1320

CTAAAGATGT TCCGATTACT TATGTAAGAG GAACCGAGGG CGGAGGAATT GGAACGAGTT   1380

1285

TTGAACAAGT AGATAGGGTT GTTTCCGAAA ATCCAGCAGA TACTTTACTT GCCTTTTTTG   1440

ACCTAGGTTC TGCTAAAATG AACTTAAAAA TGGTGACTGA TTTCAGTGAT AAAAGTATCA   1500

TCATCAACAG GGTTCCAATT GTAGAAGGTG CCTATAATGC AGCTGCTCTT CTTCAGGCTG   1560

GTGCAGAACT GTCAGTTATT CAAACACAGT TaGCGGAgCt TGAAATCAAT AAAATAAGGAA   1620

TTTTACTATA ACTCTTTTTA TAGATAAGCT ATTGaTTATC TCAACTATAA TAATGTTAAG   1680

TnAA   1684

(2) INFORMATION FOR SEQ ID NO: 259:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 970 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 259:

AGGAGTGGAG AnATATGAAG ACACAAATTT TCACATTATT GAAAATCGTT GCTGAGATTA   60

TTATTATTTT GCCATTTCTA ACTAATCTAT AAGTTCTTTA TATTGCTGAA AACGCAATTC   120

AAAAAGGGCT ATTAATTGTG GATTTTCTAA TACCTGCAGA GATTGGATAA AGCGTTCAAT   180

CTCTTTTTGA TTGCTTCCCT TTGTTTGAAG AAAGACACTC ATCTTCTTTA AAAATTGCCA   240

CGATACTTTT TCAAAAACAT CATACGGTCG TAACATCCTC TCCAACTCGG CTTCGAAGAT   300

TGGGATGTAG GAGAAAAGTT TTCGCTCCAT GAGTTCTGAT AAGATATTTA AGAGTCCTTG   360

CTTCATATAC AATCGATTGT GTACTAACTC TTTAAATTCT TTGGATTTTT CGAGTAAGGA   420

GGTTGATAAA AAAATCAGAT CTTGATTGCT CAAGAAGGGC ATGGTATTGC AAAAGAGATA   480

GAGTTCAAAC CAGGTCCAAG ACTCGATAGC ATAGAGATAG GTGGTCAAAA ACTCGCTATC   540

CTCCTCTGCT AGTGGGTAGC TTTTATTTAG TGAATGGATG GCATCTTTAA TCACGATGGC   600

ATTCAAACGA CGATAGGTCT GCGCCATCTG TTCTTGATCG ACTTCCTCCA ATAGCTGCTC   660

TAAAGCAGCT ATATCCTGAT GGGCAAAGCG ATTCACAACC TTTCGACCGA TTCGCATATG   720

TGGAGATTCT TGATAGTTGT TGAGCTTGTG CCCAAACTCA TCAAAGGTCA CATTTATACC   780

TTGGATAGCT AGAATCAACT TATCCGCAGA CAGCATAGAC TGCCCTAGTT CAAACTTGGA   840

CAACTGAGAA GCTGTTAGAC CCTCACAAGC CACATCTGAC TGCTTGAGCT TTCTCGCCAA   900

ACGTAATTCC TTGTAAAATT CCCCCAGTTC CATTCTCTCA ATCATCTGAC CACCTCCTAG   960

CTTTTGCAGG   970

1286

(2) INFORMATION FOR SEQ ID NO: 260:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2996 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:

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GTTGACCACG GGTAAAACTA CCCTAACTGC AGCTATCACA ACTGTTTTGG CACGTCGCTT        60

GCCTTCATCA GTTAACCAAC CTAAAGACTA TGCGTCTATC GATGCTGCTC CAGAAGAACG       120

CGAACGCGGT ATCACTATCA ACACTGCGCA CGTTGAGTAC GAAACTGAAA AACGTCACTA       180

CGCTCACATC GACGCTCCAG GACACGCGGA CTACGTTAAA AACATGATCA CTGGTGCTGC       240

TCAAATGGAC GGAGCTATCC TTGTAGTAGC TTCAACTGAC GGACCAATGC CACAAACTCG       300

TGAGCACATC CTTCTTTCAC GTCAGGTTGG TGTTAAACAC CTTATCGTCT TCATGAACAA       360

AGTTGACTTG GTTGACGACG AAGAATTGCT TGAATTGGTT GAAATGGAAA TCCGTGACCT       420

ATTGTCAGAA TACGACTTCC CAGGTGACGA TCTTCCAGTT ATCCAAGGTT CAGCACTTAA       480

AGCTCTTGAA GGTGACTCTA AATACGAAGA CATCGTTATG GAATTGATGA ACACAGTTGA       540

TGAGTATATC CCAGAACCAG AACGTGACAC TGACAAACCA TTGCTTCTTC CAGTCGAGGA       600

CGTATTCTCA ATCACTGGAC GTGGTACAGT TGCTTCAGGA CGTATCGACC GTGGTATCGT       660

TAAAGTCAAC GACGAAATCG AAATCGTTGG TATCAAAGAA GAAACTCAAA AAGCAGTTGT       720

TACTGGTGTT GAAATGTTCC GTAAACAACT TGACGAAGGT CTTGCTGGAG ATAACGTAGG       780

TGTCCTTCTT CGTGGTGTTC AACGTGATGA AATCGAACGT GGACAAGTTA TCGCTAAACC       840

AGGTTCAATC AACCCACACA CTAAATTCAA AGGTGAAGTC TACATCCTTA CTAAAGAAGA       900

AGGTGGACGT CACACTCCAT TCTTCAACAA CTACCGTCCA CAATTCTACT TCCGTACTAC       960

TGACGTTACA GGTTCAATCG AACTTCCAGC AGGTACTGAA ATGGTAATGC CTGGTGATAA      1020

CGTGACAATC GACGTTGAGT TGATTCACCC AATCGCCGTA GAACAAGGTA CTACATTCTC      1080

TATCCGTGAG GGTGGACGTA CTGTTGGTTC AGGTATGGTT ACAGAAATCG AAGCTTAATT      1140

CGATTTAGTT CCCAGAAGAA CAATTATTTA AGTTAGACAC TAAAAGAATC TTGCTTGGCA      1200

AGGTTCTTTT TTTAGATATT GAACTAATAC TCAATGAAAA TCAAAGAGCA AACTATAATA      1260

TATTGAAACT AGAATAGTAC ACATCTACTT CTAAAACATT GTTAGAAATC GATTTGACTG      1320

TCCTGATCGA TTTGTCTTGT TCTTATTTCA TTTTACTATA GAAAGTTAGC TACAGACTGC      1380

TCAAAACATT GTTTTTAGGT TGTAGATAGA ACTGACGAAG TCAGtAACAT CTATACGACA      1440
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1287

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AGGCGAAGCT GACGCGGTTT GAAGAGATTT TCGAAGAGTA TAATACTAGA CTAAAATCAA      1500

AAAGCATTAT ACAATAGTAA TATGAAATCA ATTAAAGAAG AAATCCAAAC CATCAAAACA      1560

CTTTTAAAAG ACTCTCGTAC AGCTAAATAT CATAAACGCC TTCAAATCGT TCTATTTCGT      1620

CTGATGGGCA AATCTTATAA AGAGATTATA GAACTTTTAT AGTGGTTTGA AATAAGATGT      1680

GAACAACTCT ATCAGGAAAG TCAAACTAAT TTATAGAAAT ATTTTAGCAG CCAAGGTGTA      1740

CTGTTATAGA TTCAATACAC TTTAGACTGT AATCAAACAA CGATTTGGCG AAATGTAAAA      1800

AATATGAGGA GTTCGGACTC GACTCTCTCC TTCAAGAAAC ACGTGGTGGT CGTAACCATG      1860

CTTATATGAC GGTTGAGCAA GAGAAAGTCT TTCTTGCCCG CCATTTGAAG GCTACAGAGG      1920

CAGGAGAATT TGTTACAATT GATGCCTTAT TTCAGGCTTA TAAAAAGGAG TTAGGTCGTT      1980

CCTACACACG TGATGCCTTC TATCAACTGT TGAAGCGCCA TGGTTGGCGA AATATTACGC      2040

CACGTCCAGA ACATCCTAAG AAAGCAGATG CTCAAACCAT TGTCGCGTCT AAAAATAAAG      2100

TCTCAATTCA AGAAGACAAG TGAACTGCAC CCCAAAAGTT AGACAGAAAA AATCTAACTT      2160

TTGGGGTGTT TTTATTATGA AATTAACTTA TGATGATAAA GTTCAGATCT ATGAACTTAG      2220

AAAACAAGGA TATAGCTTAG AGAAGCTTTC AAATAAATTT GGGATAAACA ATTCTAATCT      2280

TAGGTACATG ATTAAATTGA TTGATCGTTA CGGAATAGAG TTCGTCAAAA AAGGAAAAAA      2340

TCGTTACTAT TCTCCTGATT TAAAACAAGA AATGATTCAT AAAGTCTGAC ATGAAGGCTG      2400

GACTAAAGAT AGAGTTTCTC TTGAATACTG TCTCCCAAGT CGTACGATAC TTCTTAACTG      2460

GCTAGCACAA TACAGGAAAA ACGGGTATAC TATTGTTGAG AAAACAAGAG GGAGAGTACC      2520

TGAGAGCGGA GAATGCCATC CTAAAAAAGT TAAGAGAACT CCGATTGAAG GAGGAAAAAG      2580

AGAAAGAAGA AAGACAGAAA TTATTCAAGA ATTAATGACT GAGTTTTCGT TAGATATTCT      2640

TCTAAAAGCC ATTAAACTAG CTCGTTTGAC CTACTACTAT CACTTGAAAC AGCTAGATAA      2700

ACCAGATAAG GACCAAGAGC TTAAAGCTGA AATTCAATCC ATTTTTATCG AACACAAGGG      2760

AAATTATGCT TATCGTCGGA TTTATTTAGA ACTAAGAAAT CGTGGTTATC TGGTAAATCA      2820

TAAAAGAGTT CAAGGCTTGA TAAAAGTACT CAATTTACAA GCTAAAATGC GACAGAAACG      2880

AAAATATTCT TCTCATAAAG GAGACGTTGG CAAGAAGGCA GAGAATCTCA TTCAAGGACA      2940

ATTTGAAGGC TCTAAAACAA TGGAAAAGTG CTACACAGAT GTGACAGAAT TTGCCG          2996
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(2) INFORMATION FOR SEQ ID NO: 261:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 837 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double

1288
(D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 261:

CTTATCAACT CCCGACATGG CTCTCAGACC AATCCAAATC CCTAAAAAAA TCAGAACAAG   60

GATGGTGGTC AAGATCAAAC TCTCGAAATA TAAAGAAAAT AGTTGCAGTA GCATGATTTC   120

TCTCATTTCT ATCTTTTTTA AAGAGTAAAC TCAGCTAGTC CAACTAACTG AGTTTTCCTT   180

TATCTATTAT ATCAAATATA AGTCCGTTTG TAACTAGCGA AGAATTCTTT TGTCCGCTCT   240

TCTTTAGGGG TGTGGATAAT CTCATCCGGA GTTCCAGACT CGATGATTTT CCCCTTATCT   300

AAGAAGAGAA TTTTATCCGC AACTTGGGCT ACAAAGGACA TGTCATGACT GACCAAAATC   360

ATGGTCTGAC CTGACTTAGC AGCATCTGCA ATAGACTTTT CTACTTCACC GACCAATTCT   420

GGGTCAAGGG CTGAAGTTGG TTCGTCTAAG AGCAAAACAT CTGGTTTCAT AGCAAGCGCA   480

CGCGCTAGGG CAACCCGTTG CTTCTGTCCA CCTGATAAAT GGCGAGGATA ATGGTTTTCA   540

CGGTCCGAAA GCCCAACCTT AGCCAACTCT TCCTTGGCAA TCTTAGTCGC TTCTTGGTCA   600

GATAATTTCT TGACAACAAC CAAGCCTTCT TTCACATTAT CAAGTGCTGT TCGGCGTTCA   660

AACAAATTAA ACTGTTGGAA AACCATAGAC AACTTACGAC GTAGGGCAAG GATTTCTTCT   720

TGAGTGATTT TAGAAAAATC AACTGAAAAA CCATCAATCT GAATAGAGCC ACTGTCAGGT   780

GTTTCTAGAT AATTGAGACT GCGAGAAAGG TTGATTTTCA GCTCTGAAGA CCAATCA   837

(2) INFORMATION FOR SEQ ID NO: 262:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 868 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 262:

CCGAACAAAA TGGGCTAATT AGATTATAGT AAGAAAGGTA AGTTAAAAAT GAGAATTGCA   60

ATTGGATGTG ACCACATCGT AACTGATGAA AAAATGGCGG TTTCAGAATT TTTGAAATCA   120

AAAGGATATG AAGTCATTGA CTTTGGTACC TATGACCATA CACGGACTCA CTACCCAATC   180

TTTGGTAAAA AAGTAGGGGA AGCTGTAACT AGCGGTCAAG CTGATCTTGG AGTATGTATC   240

TGTGGTACTG GTGTTGGTAT CAACAACGCT GTAAATAAAG TTCCAGGTGT TCGTTCTGCC   300

TTGGTTCGTG ATATGACAAC AGCCCTTTAT GCTAAAGAAC AATTGAACGC TAACGTTATT   360

GGTTTTGGTG GTAAAATTAC TGGTGAATTG CTTATGTGTG ATATCATCGA AGCTTTCATC   420

1289

CATGCTGAAT ACAAACCAAC TGAAGAAAAC AAAAAATTGA TTGCGAAAAT TGAACATGTT   480

GAAAGTCACA ATGCTCAACA AACAGACGCA AACTTCTTTA CAGAATTCCT TGAGAAATGG   540

GATCGTGGAG AATACCACGA CTAAGAGGTG ACCTATGATT TTAACAGTCA CAATGAACCC   600

ATCCATCGAT ATTTCCTATC CCTTGGATGA GTTGAAGATT GATACTGTCA ATCGTGTGGT   660

GGATGTAACC AAAACGGCTG GTGGTAAGGG ACTCAATGTT ACCCGAGTAC TTTCAGAATT   720

TGGCGATTCT GTTCTTGCTA CTGGTTTAGT GGGTGGCAAA CTTGGTGAGT TTTTGGTTGA   780

ACATATCGAT AATCAAGTAA AGAAAGATTT CTTCTCAATT AAGGGAGAAA CTCGTAACTG   840

TATCGCTATT CTCCACGGAG ACAACCAA   868

(2) INFORMATION FOR SEQ ID NO: 263:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 3744 base pairs
         (B) TYPE: nucleic acid
         (C) STRANDEDNESS: double
         (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 263:

CCGTTCAAAG TCTTCATAAG ACTCGAAAGT CACAGTTCTT TCGTTCTTGC TGGCATCTAT   60

ATAGGTAATT TCAATCATGT TTAAAACTCC TTTGTTTAAT GCTAACTTTA TTTTACTCCT   120

TATAAAAGAG AATGTCAAGA AAAATGATTG CGCACGCAAC TTTTTTTAAA ATCATCTTAA   180

ATCAAGAAAT CCAAACCTGC TTCCAAGCTT TCTTCGACAG TCTTTTGTAG CGAGGCCAGT   240

GTCTTTTGCC CATCATTTGT CAGGCAGATA AAACTAGAGC GTCTATCTTG ATGGCAACAC   300

ATGCGACTGA GTAGACCGCA ATTTTTAGCT TCCAAGCGAG CCACCATCCT AGAAACTGCG   360

CTCGGGCTCA GATGAAGCTT ATCTGGCAGG TCAATCTGGC GTAGAGATTT TTCTTCAGCC   420

AAGTCCAGAT AGTAGAGCAG GTAGAACTCT TTCAAGGTCA GACTTTGCTC GCTCTGTTGG   480

GCAATGGTCT CTTCCAAGAG ACTTTCAATT TCTTTCTGAC GCCGATTGAA GTCAAACCAT   540

TTTTCCAAAT AGGTCATAGT GTCTCCTTTC TTTTTAGAGT CATAAATAGA AGAAAGTCCA   600

TTAACGGGCA GTCTCTGCGT CACAAGATGA TTGCGCATGC AATAATTATA CTACTTTTCA   660

AGAATGCTGG CAAGCTCTGT TTTTTAGTGG TTTTATTTTT GTGTGAATAA TGGGGGAATC   720

CTATTGTTTC AATTTCTAAC TCCTTATCAC ATTCGAATTC AGATTTTATT TCATTTCTCT   780

ATCTATAGTT GCTTAGTTTA AAATAAGCAT GGTCTAATAA AGCTATGCAT ATAGTACTGA   840

TTTTAAACAA GGAGCATTAG ATTCCATTAA AGGAGGGCAC AGACATGTCG AGGCGGCCAA   900

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                                    1290
AGTTTTTGAT GTCGGCGTCA GAACTCTCTT CACGTGGGAA AAGAAAGACG TAAACAAGGG        960

AACTTAGAGC GGAAAAAGCG AGTCGTCAAA AAGCGTAAGA TCCCTTTAGA AGAATTGAAA       1020

GCCTTTGTAG AGGCTCATCC AGACGCTTTT TTACGGGAAA TTGCGGCCCG TTTTGATTGT       1080

GCTTTGCCCT CCGTATGGGC AGTTTTAAAG CAGATTAAGG TCATTTTAAA AAAGACGACC       1140

AGTTTTAGGG AACAAAAGCC TGAGAAAGTT TCTGAGTTTC TTGATATTTT GGATAACCTA       1200

AAAGATTTAC CAGTCCTATA TATTGACGAA ACGGGAATCG ACCGCTACCT CTATCGTCCT       1260

TATGCAGGGG CTCCTAGAGG GGAGAAAGTC TATGGCAAGA TTAGCGGACG GCGTTTTGAG       1320

CGGACTAATG AGGTGGAGCA AAAACTCAAT GGTAGTTTTC TAATCAGATA TATTGATTCA       1380

CAAATTAGAG AATGAAAGAA TAATTATGCA TAAAAATAGG AATATAAACC AAAAATTAGC       1440

TGATTTATAC TCATTTGCGT GTCTTTATAA AAAACTTATC TTATAATATA TATATATATA       1500

TATACAAAAT AGTAAAATGC TTTTTTTTTT TAGCAAAAAT ACCTCAAGTT TCTTGCTATT       1560

TTGGGTTCCC TATTCTATAA TTATAGTATG GTAATTTATT TATATCCATA CATGAAAATA       1620

ATACTCGAAA GGAAATTTCA AAATATTTTT TAGACGTCAG AAGGGTGAAT ATAGAGAAAC       1680

AGACCGAGTA ACTCGGTTCA AATTAATCAA ATCAGGGAAG CATTGGCTAC GGGCCTCGAC       1740

TTCTCTTTTT GGCTTGTTTA AGGTCTTGCG AGGTGGTGTT GATACTACTC AGGTCATGAC       1800

CGAAACGGTA GAAGATAAAG TAAGTCATTC AATTACTGGG CTTGATATCC TCAAGGGGAT       1860

AGTTGCTGCG GGAGCTGTCA TAAGTGGAAC CGTTGCAACT CAAACGAAGG TATTTACAAA       1920

TGAGTCAGCA GTACTTGAAA AAACTGTAGA GAAAACGGAT GCTTTGGCAA CAAATGATAC       1980

AGTAGTTCTA GGTACGATAT CTACAAGTAA TTCAGCGAGT TCAACTAGTT TGTCAGCTTC       2040

AGAGTCGGCA AGTACATCTG CATCTGAGTC AGCCTCAACC AGCGCTTCGA CCTCAGCAAG       2100

TACAAGTGCA TCAGAATCAG CAAGTACATC GGCTTCGACA AGTATTTCTG CATCATCTAC       2160

TGTGGTAGGT TCACAAACAG CTGCCGCTAC AGAAGCAACT GCTAAGAAGG TCGAAGAAGA       2220

TCGTAAGAAA CCAGCTAGTG ATTATGTAGC ATCAGTTACA AATGTCAATC TCCAATCTTA       2280

TGCTAAGCGA CGCAAGCGTT CAGTGGATTC CATCGAGCAA TTGCTGGCTT CTATAAAAAA       2340

TGCTGCTGTT TTTTCTGGCA ATACGATTGT AAATGGCGCC CCTGCAATTA ATGCAAGTCT       2400

AAACATTGCT AAAAGTGAGA CAAAAGTTTA TACAGGTGAA GGTGTAGATT CGGTATATCG       2460

TGTTCCAATT TACTATAAAT TGAAAGTGAC AAATGATGGT TCAAAATTGA CCTTTACCTA       2520

TACGGTTACG TATGTGAATC CTAAAACAAA TGATCTTGGT AATATATCAA GTATGCGTCC       2580

TGGATATTCT ATCTATAATT CAGGTACTTC AACACAAACA ATGTTAACCC TTGGCAGTGA       2640

TCTTGGTAAA CCTTCAGGTG TAAAGAACTA CATTACTGAC AAAAATGGTA GACAGGTTCT       2700
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1291

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ATCCTATAAT ACATCTACAA TGACGACGCA GGGTAGTGGG TATACTTGGG GAAATGGTGC    2760

CCAAATGAAT GGTTTCTTTG CTAAGAAAGG ATATGGATTA ACATCATCTT GGACTGTACC    2820

AATTACTGGA ACGGATACAT CCTTTACATT TACCCCTTAC GCTGCTAGAA CAGATAGAAT    2880

TGGAATTAAC TACTTCAATG GTGGAGGAAA GGTAGTTGAA TCTAGCACGA CCAGTCAGTC    2940

ACTTTCACAG TCTAAGTCAC TCTCAGTAAG TGCTAGTCAA AGCGCCTCAG CTTCAGCATC    3000

AACAAGTGCG TCGGCTTCAG CATCAACCAG TGCCTCGGCT TCAGCGTCAA CCAGTGCGTC    3060

AGCTTCAGCA AGTACCAGTG CTTCAGTCTC AGCATCAACA AGTGCTTCAG CCTCAGCATC    3120

GACAAGTGCC TCGGCTTCAG CAAGCACATC AGCATCTGAA TCAGCGTCAA CCAGTGCTTC    3180

GGCTTCAGCA AGTACCAGTG CTTCAGCTTC AGCATCAACC AGCGCCTCGG CCTCAGCAAG    3240

CACCTCAGCT TCTGAATCGG CCTCAACCAG CGCCTCGGCC TCAGCAAGCA CCTCAGCTTC    3300

TGAATCGGCC TCAACCAGCG CCTCAGCCTC AGCATCAACG AGTGCTTCGG CTTCAGCAAG    3360

CACAAGCGCC TCGGGTTCAG CATCAACGAG TACGTCAGCT TCAGCGTCAA CCAGTGCTTC    3420

AGCCTCAGCA TCAACAAGTG CGTCAGCTCA GCAAGTATCT CAGCGTCTGA ATCGGCATCA    3480

ACGAGTGCGT CTGAGTCAGC ATCAACGAGT ACGTCAGCCT CAGCAAGCAC CTCAGCTTCT    3540

GAATCGGCCT CAACCAGTGC GTCACCTCAG CATCGACAAG CGCCTCAGCT TCAGCAAGTA    3600

CCAGTGCTTC AGCCTCAGCG TCGACAAGTG CGTCGGCCTC AACCAGTGCA TCTGAATCGG    3660

CATCAACCAG TGCGTCAGCC TCAGCAAGTA CTAGTGCATC GGCTTCAGCA TCAACCAGTG    3720

CCTCGGCTTC AGCGTCAAAC AGTG                                          3744
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(2) INFORMATION FOR SEQ ID NO: 264:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 795 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:

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CGATAAAGAG GCCTTGAGTA ATCTCAATTT GCAGATTGAA AATGGAGAGA TTATGGGCTT    60

GATTGGTCAT AATGGGGCTG GAAAATCGAC CACTATAAAA TCCCTAGTCA GTATCATTTC    120

ACCCAGCAGT GGTCGTATTT TGGTAGACGG TCAGGAGTTA TCGGAAAATC GCTTGGCTAT    180

TAAACGAAAG ATTGGCTACG TAGCAGACTC GCCTGACTTA TTTTTACGCT TAACGGCCAA    240

TGAATTTTGG GAATTGATCG CCTCATCCTA TGATCTGAGT AGATCTGACT TGGAGGCTAG    300
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1292

TCTAGCTAGG CTATTGAACG TTTTTGATTT TGCTGAAAAT CGCTATCAGG TTATTGAAAC   360

TCTTTCTCAC GGAATGCGTC AGAAAGTCTT TGTCATCGGA GCACTCTTGT CTGATCCCGA   420

TATTTGGGTC TTGGATGAAC CCTTGACTGG TTTGGATCCC CAGGCTGCCT TTGATTTGAA   480

ACAGATGATG AAGGAACATG CACAAAAAGG GAAGACAGTC TTGTTTTCAA CTCATGTCCT   540

AGAGGTGGCA GAGCAAGTCT GTGATCGGAT TGCCATTTTG AAAAAGGGGC ATTTGATTTA   600

TTGTGGTAGT GTAGAGGACT TGAGAAAAGA TTACCCAGAC CAGTCTTTGG AAAGTATCTA   660

CCTTAGTCTT GCTGGTAGAA AAGAGGAGGT TGCGGATGCG TCTCAAGGTC ATTAAAAAAT   720

TAGTTGATAT CAATATCCTT TATTCATCTC AAGAAGCTAA TCTGGCTAAT CTACGAAAGA   780

AGCAGGCTAA GAATC   795

(2) INFORMATION FOR SEQ ID NO: 265:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2231 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:

TGGTAATGTG CTTGGCAGCw TCCTTGACAC TGCTACTACC ATTTCCCATA GCGACCGACA   60

TACCAACGCC AGCCAGCATT TCAAGATCAT TATCTGAGTC ACCAAAAGCC ATGACTTGGT   120

TGAGGTCAAA GCCATATTCT TTCCCAACTC GGCGAATGCC TTCTAATTTA GAATTTCCCT   180

GATTGATGAC ATCCGATGCA AAAGGATTGC TACGTGTCAA TTTCAAGTCT TCAAAATCAG   240

CTGCCGCCTT CTCAGATTCT TCTGGTGTCA TCAGCATCAA AACTTGGTAG ATAGGCTGAT   300

TCATCAGGTG AAGCAGGTCC TCTTCCTTTT GGGGAACAAC CTTGCTGACC ATGCGATTAA   360

AAGACTGACT CACCGTCCGA GTTAAAACAG AGGGAACGAA GCGACTAATT CGTTGGGAAA   420

AAGAACCCAG ACCAAAGGAC ATGATTTTAG AACCCAACAT GGCATCCTTG GTCCCTAGAG   480

CAATCTCCGT GCCCTCTTTT TTAGCATAGC TAATTAGATG GCGCAAATGT AACTTGGAAA   540

TAGGGCTCGT GAACAAGACT CTGTCTTTAC TAAAGATATA CTGGCCATTA TAGGTTACCG   600

CAAAATCCAG ATCCAAATCG TCCATCAATT CCTTAACAAA AAAAGGTCCT CGCCCTGTCG   660

CTACGCCAAC TAGTACCCCT TGTTCTTTGA CAATCTTAAT CGCATCCTTA GTGGATTTCA   720

AAACACTCTT GCGATTGTTG ACCAAGGTTC CATCGATATC AAAAAAAACA GCTTTGACTT   780

CCATCCTATC CCAATCTCCC CTTTTGTGAT ACAATGATTA TACCACATTT CAGAAAGAGT   840

GAGTAAATCA TGCCTAAGAA AATCCTTGTT TTACATACGG GTGGAACTAT TTCCATGCAG   900

1293

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GCCGATGCTT CTGGCGCTGT TGTGACGAGT TCAGATAATC CCATGAACCA TGTGTCCAAC        960

CCACTTGAAG GAATCCAAGT CCACGCCTTG GACTTTTTTA ACCTTCCAAG TCCCCATATC       1020

AAACCCAAAC ATATGCTGGT CCTCTACCAG AAAATTAAAG AGGAAGCAGA TAACTACGAT       1080

GGAGTGGTGA TCACACACGG AACCGATACT TTAGAGGAAA CAGCCTATTT CCTTGATACC       1140

ATGGAAGTTC CCCATATGCC TATCGTTCTA ACAGGAGCCA TGCGTACtCC AATGAGCTCG       1200

GTAGTGATGG TGTTTATAAT TACCTAAGTG CTTTACGAGT GGCCAGCGAT GACAGGGCTG       1260

CTGACAAAGG AGTTTTGGTC GTTATGAACG ATGAAATCCA CGCTGCCAAG TATGTCACCA       1320

AAACACATAC GACTAATGTC AGCACCTTCC AGACTCCAAC ACATGGCCCC CTTGGTCTCA       1380

TCATGAAACA GGAAATCCTC TACTTCAAAA CAGCTGAACC TCGTGTTCGC TTTGACCTTG       1440

ATCACATACA AGGTTTAGTC CCTATCATCT CGGCTTATGC TGGTATGACA GATGAGCTGA       1500

TTGATATGCT GGATTTAGAA CACTTGGACG GTTTGATTAT CCAAGCCTTC GGAGCTGGTA       1560

ATATTCCCAA AGAAACGGCT CAAAAATTAG AAAGCCTTCT GCAAAAAGGA ATTCCAGTCG       1620

CTCTGGTATC ACGATGCTTT AACGGTATTG CCGAGCCTGT TTATGCATAC CAGGGTGGGG       1680

GCGTACAGTT GCAAAAAGCA GGCGTTTTCT TTGTTAAAGA ACTCAACGCC CAAAAAGCTC       1740

GCTTGAAACT CCTCATCGCC CTCAATGCCG GACTAACAGG ACAGGCTTTG AAAGACTATA       1800

TGGAAGGCTA ATACTCTTCG AAAATCTCTG CAAACCACGT CACGTCGCCT TACCGTATGT       1860

ATGGtACTGA CTTCGTCAGT TTCATCTACA ACCTCAAAAA CATGTTTTGA GCTGACTTCG       1920

TCAGTTCTAT CTACAACCTC AAAAACATGT TTTGAGCTGA CTTCGTCAGT TCTATCTACA       1980

ACCTCAAAAA CATGTTTTGA GCTGACTTCG TCAGTTCTAT CTACAACCTC AAAAACATGT       2040

TTTGAGCTGA CTTCGTCAGT TCTATCTACA ACCTCAAAAA CATGTTTTGA GCTGACTTCG       2100

TCAGTTCTAT CTACAACCTC AAAAACATGT TTTGAGCTGA CTTCGTCAGk TCTATCTACA       2160

ACCTCAAAAA CATGTTTTGA GCTGACTTCG TTAGTTTCAT CTACAACCTC AAAAACATGT       2220

TTTGAGCTGA C                                                           2231
```

(2) INFORMATION FOR SEQ ID NO: 266:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1310 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:

1294

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GAGTCAAAGG CTCCGAGGTT GACTTTTTAC AAGGGGACAG GTGAATATTA TCTAGACCTG        60

TCAGAAATTC TCTTCTTTGA AACAGAAGGG AGCAAGATCT ACGCTCATAA CCAGAAGGAA       120

GCTTATGAGG TTCGCCTCAA GCTCTATGAG TTGGAGTCTA TCTTGCCTCG CTATTTTAAT       180

CGAGTTTCCA AGTCAACGAT CGCAAACATC CGTCAGATTT ACTCAGTGGA CAAGTCCTTT       240

TCAGGAACGG GCACCATTTC CTTTTATCAG ACGCACAAGG AGGTTCATGT CTCACGGCAT       300

TACCAATCCC TCCTAAAAGA AAATCTAAGA AACATGAGGT AAAAAACATG AAAAAGAAAG       360

CATTTGGTAT TGTTTTATTG GTTTTAGCAG CTTGGATCTT GCTGCAAGGG AATTTTGGAA       420

TTCCTTCTTT GGATGGTAAA ATATGGCCTT TACTAGGTAT TGTTTTTTTT GCTTATAAGT       480

CCATTGAGTC CATCCTTAGA CGTCATCTCA CTTCGGCAGT TTTTACAGGT TTACTGGCGC       540

TCATCATTGC AAATTACGCT TATGACTTGT TACCAGTTAC CAATCATTCT CTTATTTGGG       600

CTAGCATCTT GGTGGTACTT GGTGTTGGTT ATCTGACGCA TTCAAGTAAG TTCTGGAATG       660

AAAAAAAATG GTGGTACAAT GGGAAAAAAA CAGTCGTCAC GGATAAGGAA GTCGCTTTTG       720

GTAGCGGGAC CTTCTATAAG CAAGATCAAG ATCTCGTAGA TGACCAAGTG GAAGTCGCTT       780

TTGGGGATGC TAAAAATCTAC TATGATAATG CAGAGATGCT AGGTGATTTT GCAACTTTAA       840

ATATTGAAGT GGCCTTCGGG AATGCAACCG TCTATGTTCC ACAACACTGG CGTGTAGATT       900

TGAAAGTAGA AACCTCCTTT GGTGCAGCTA AGGCTGACGC TCCTGTAGCC CCAACCAGCA       960

AAACCTTGAT TATCCGTGGA GATGTGGCTT TTGGGAAGTT GGAAATTGTC TACGTTAAAT      1020

AAAAAAATCT TCACTTCAAC CATCAAAATA GACGTACTAA GAGTAGGAAA TTGATGCCTT      1080

GCTCTGATTT CAGTTCTATG GTTGTTAGAC TTTAAAAAAT GAAATGCTGC CTTTAAAAGT      1140

TGTATATTTT TCGATATTTT GGCTTTTACG TTTGATGTAT CTATGTACTA CAGCGTAGAT      1200

GATGTAGTGT CAAATGCTTT TAAAAAACGG ATGATATTGG ACAGTTTTTT TGCCTTTAAT      1260

TGCTCAGGAA CCATGAAAGT CAGTACCTGG GTTTATGACA AGGGAGAATG               1310
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(2) INFORMATION FOR SEQ ID NO: 267:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5922 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:

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ACTCTGATTT GATTGGAACG ACAGTCGGTG CCATTGCAGT TACTTCAAAC GTAACGACTT        60

ATGTTGAGTC TGCTGCTGGT ATCGGTGCAG GTGGACGTAC TGGTTTGACA GCCTTGGTTG       120
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1295

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TAGCTATCTG TTTTGCGATT TCAAGCTTCT TTAGCCCACT TCTAGCGATC GTACCAACAG      180

CGGCTACAGC TCCAATCTTG ATTATCGTTG GGATTATGAT GCTTGGTAGC TTGAAAAATA      240

TCCATTGGGA TGATATGTCT GAAGCAGTTC CTGCCTTCTT CACATCTATC TTTATGGGAT      300

TCAGCTACTC TATCACTCAA GGGATTGCAG TTGGTTTCTT GACTTACACT TTGACTAAGC      360

TTGTTAAAGG TCAAGTTAAA GATGTTCATG TCATGATTTG GATTTTGGAT GCCTTGTTTA      420

TCCTTAACTA CATCAGCATG GCCTTATAAT AGAATGACCC AGGGGGATTT CCCCCCTTTT      480

TTAATACAaG GAGATAGGTG ATGAAAGAGA AAAATATGTG GAAAGAATTG TTGAATCGTG      540

CAGGCTGGAT TTTGGTCTTT TTACTTGCCG TCCTTTTATA TCAGGTTCCC CTAGTGGTTA      600

CCTCTATTTT GACTTTAAAA GAAGTAGCCC TGCTACAGTC AGGGCTGATA GTTGCTGGCC      660

TTTCAATTGT GGTTCTGGCT CTATTTATTA TGGGAGCTCG TAAAACCAAG TTAGCTAGTT      720

TTAATTTTTC TTTTTTTAGA GCTAAAGATT TGGCACGTTT GGGCTTGAGT TATCTAGTTA      780

TTGTCGGGTC AAATATACTT GGTTCCATTT TATTGCAACT GTCAAATGAG ACGACAACAG      840

CTAACCAGTC TCAGATTAAT GATATGGTTC AAAATAGTTC GTTGATTTCC AGTTTCTTCT      900

TGCTAGCCTT GCTTGCTCCG ATTTGTGAGG AAATCTTGTG TCGTGGGATT GTTCCTAAAA      960

AGATTTTCCG AGGCAAGGAG AACTTGGGAT TTGTAGTCGG TACGATTGTG TTTGCTTTAT     1020

TGCATCAACC AAGTAATTTA CCTTCTTTAT TGATTTATGG AGGTATGTCG ACAGTTCTAT     1080

CTTGGACAGC CTACAAGACC CAACGTTTGG AAATGTCGAT CTTGCTTCAC ATGATTGTTA     1140

ATGGGATTGC TTTCTGTTTG TTGGCTCTTG TGGTGATTAT GAGTCGGACA TTAGGAATTT     1200

CTGTTTAAAA GTTTTTATGT AGGAACCGAC CTCTTTCTAC CAGGGAAAGA TGAATGCAAT     1260

CGTGTCCATC TTTTTCTTTT TATGGTAAAA TAGAAAAATA ATATGATGAA AATCCTTGAG     1320

GGAGTGACCG ATATGTCAAG TAAAGCCAAT CATGCAAAGA CAGTTATTTG CGGAATTATC     1380

AATGTAACCC CAGACTCCTT TTCGGACGGT GGTCAATTTT TTGCTCTTGA GCAGGCGCTC     1440

CAGCAGGCTC GTAAATTGAT AGCAGAAGGA GCCAGTATGC TAGATATCGG CGGAGAATCG     1500

ACTCGGCCGG GAAGTAGCTA TGTTGAGATA GAAGAGGAAA TCCAGCGTGT TGTTCCAGTG     1560

ATCAAAGCGA TTCGCAAGGA AAGTGATGTC CTCATCTCTA TTGATACTTG GAAGAGTCAA     1620

GTAGCAGAGG CTGCTTTGGC TGCTGGTGCC GATCTAGTCA ATGATATCAC TGGTCTTATG     1680

GGTGATGAGA AAATGGCTTA TGTGGTAGCT GAAGCGAGAg CGAAAGTGGT CATCATGTTT     1740

AACCCAGTTA TGGCTCGACC TCAGCATCCT AGTTCGCTTA TCTTCCCTCA TTTTGGTTTT     1800

GGTCAAACCT TTACAGAAAA AGAGTTAGCT GACTTTGAAA CATTGCCAAT CGAAGACTTG     1860
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1296

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ATGGTGGCTT  TCTTTGAACG  AGCACTAGCG  AGAGCGGCAG  AAGCTGGTAT  TGCACCAGAA    1920

AATATCCTGT  TGGATCCAGG  AATTGGCTTT  GGTCTGACCA  AGAAAGAAAA  TCTGCTTCTT    1980

TTACGGGACC  TGGATAAACT  ACATCAGAAG  GGCTATCCAA  TCTTTCTCGG  AGTGTCGCGC    2040

AAGCgATTTG  TCATCAATAT  CCTAGAGGAG  AATGGTTTTG  AAGTCAATCC  TGAGACAGAG    2100

CTTGGTTTCC  GAAATCGGGA  CACGGCTTCG  GCTCATGTAA  CTAGTATCGC  TGCGAGACAG    2160

GGTGTAGAAG  TGGTGCGCGT  GCATGACGTA  GCTAGTCACA  GGATGGCAGT  TGAAATTGCC    2220

TCTGCCATTC  GTCTGGCTGA  TGAAGCGGAA  AATTTAGATT  TAAAACAATA  TAAATAAGAT    2280

GAAAGAAATT  GAAAACAATC  AGTGGATTGC  TAACTACCGG  ACGGATCAAC  CGCATTTTGG    2340

CTTGGAACGA  ATGGTGGAAC  TGTTAGCTTT  GCGTGGCAAT  CCCCATCTCA  AACTCAAGGT    2400

CCTCCATATC  GGAGGGACTA  ACGGCAAGGG  CTCGACTATT  GCTTTTTTGA  AAAAGATGCT    2460

AGAAAAGCTA  GGGTTGAGAG  TTGGCGTGTT  TAGCTCGCCC  TATCTCATTC  ATTACACAGA    2520

CCAGATTAGC  ATCAATGGGG  AATCGATCTC  AGAAGCGAGG  CTAGAAGCTC  TCATGGCAGA    2580

CTATCAGTCT  TTGCTGGAGG  GAGAAGCGGT  CGCCAATTTA  CAGGGCACAA  CCGAGTTTGA    2640

GATTATCACA  GCCCTGGCCT  ATGACTACTT  TGCCTCAGAG  CAAGTAGATG  TGGCCATCAT    2700

GGAAGTTGGC  ATGGGTGGAC  TTTTGGATAG  TACCAATGTC  TGTCAGCCCA  TTTTGACAGG    2760

AATTACAACT  ATTGGCTTGG  ATCATGTGGC  TCTACTTGGT  GACACCTTGG  AGGTCATAGC    2820

AGAGCAGAAG  GCAGGTATTA  TCAAACAAGG  GATGCCCTTG  GTAACAGGGC  GTATTGCTCC    2880

AGAAGCCTTG  GCTGTGATTG  ACCGCATTGC  GGAAGGGAAA  GATGCGCCGA  GACTTGCCTA    2940

CGGGACAGAT  TATCAGGTTC  GTCATCAAGA  AAGTGTGGTG  ACAGGGGAAG  TCTTTGACTA    3000

TACAAGTGCT  GTCAGACAAG  GTCGCTTCCA  GACTAGCCTG  CTTGGTTTGT  ACCAAATAGA    3060

GAATGCTGGG  ATGGCCATAG  CTTTACTTGA  TACTTTTTGT  CAAGAAGATG  GTCGAGAGCT    3120

AGCAAGCAAT  GATTTTCTTG  GTCAAGCCTT  GGAAGAAACA  AGTTGGCCAG  GGCGTTTGGA    3180

AATCGTGTCA  AGAGATCCCT  TGATGATTTT  GGATGGAGCC  CACAATCCCC  ATGCTATCAA    3240

GGCCTTGTTG  GTAACCTTGC  AAGAACGTTT  TGCGGATTAT  CATAAGGAAA  TCCTCTTCAC    3300

TTGTATCAAA  ACCAAGGCCT  TGGAGGATAT  GTTGGACTTG  CTGGGAGCCA  TGCCAGTTAC    3360

CGAGCTTACT  CTAACACATT  TTGCGGATAG  TCGGGCGACG  GATGAAAACG  TGCTGAAAGA    3420

GGCAGCTAAG  TCTAGAAATC  TCAGCTACCA  AGATTGGCAT  GATTTTCTAG  AGCAGAATTT    3480

GACAGATAAA  AAAGAAGAGA  AACAAACAGT  TAGGATTGTC  ACAGGTTCCT  TGTATTTCTT    3540

GAGCCAAGTG  AGGGCCTATC  TGATGGAGAG  GAAGAACGAG  AATGGATACA  CAAAAGATTG    3600

AAGCGGCTGT  AAAAATGATT  ATCGAGGCTG  TAGGAGAGGA  CGCTAATCGC  GAGGGCTTGC    3660
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1297

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AGGAAACACC TGCTCGTGTA GCCCGTATGT ATCAAGAGAT TTTTTCAGGT CTTGGTCAAA    3720
CAGCAGAGGA ACATTTGTCA AAATCCTTTG AAATTATTGA CGATAATATG GTGGTAGAAA    3780
AGGATATCTT TTTCCATACC ATGTGTGAAC ACCACTTCTT GCCATTTTAT GGTAGAGCGC    3840
ACATTGCCTA CATTCCAGAT GGTCGTGTGG CAGGCTTGTC TAAGCTAGCC CGTACGGTTG    3900
AAGTTTATTC GAAAAAACCA CAAATTCAAG AACGTTTGAA TATCGAAGTG GCCGATGCCT    3960
TGATGGACTA TCTAGGTGCT AAAGGAGCCT TTGTTGTCAT TGAGGCGGAA CATATGTGTA    4020
TGAGTATGCG TGGTGTTAGA AAACCAGGCA CTGCAACCTT GACGACAGTA GCTCGTGGTC    4080
TATTTGAAAC AGATAAGGAT CTCCGTGACC AAGCTTATCG TTTAATGGGG CTATAAAAAG    4140
AATCCGCTTC AAGCGGATTT TTCTAGAAAG GAATCATTAT GGATCAACTG CAGATTAAGG    4200
ATTTGGAAAT GTTTGCCTAT CATGGTCTTT TTCCTAGTGA GAAAGAATTG GGGCAGAAAT    4260
TTGTCGTTTC AGCCATCCTA TCCTATGATA TGACCAAGGC AGCTACAGAC TTGGATTTAA    4320
CAGCCTCTGT CCATTACGGA GAATTGTGTC AGCAGTGGAC GACTTGGTTT CAGGAAACGA    4380
GTGAAGATTT GATTGAAACG GTAGCCTATA AACTGGTGGA ACGTACCTTT GAGTTTTATC    4440
CTCTTGTCCA AGAAATGAAG TTGGAACTGA AAAAACCTTG GGCACCGGTG CATTTGTCAC    4500
TAGATACTTG CTCGGTAACC ATTCATCGCC GCAAGCAACG AGCCTTTATC GCCCTAGGAA    4560
GCAATATGGG AGATAAACAA GCAAACTTGA AGCAAGCCAT TGACAAACTG CGAGCTCGTG    4620
GCATCCATAT TCTCAAAGAG TCCAGTGTCT TAGCGACGGA GCCTTGGGGT GGAGTGGAGC    4680
AGGATAGCTT TGCCAATCAA GTGGTTGAGG TGGAAACCTG GCTACCAGCA CAAGACTTGT    4740
TAGAAACCTT GTTAGCCATT GAGTCAGAGC TGGGACGGGT GAGAGAAGTG CATTGGGGAC    4800
CTCGTTTGAT TGATTTGGAC TTGCTCTTTG TGGAGGACCA GATCCTTTAT ACAGACGACC    4860
TCATATTGCC TCATCCTTAC ATAGCGGAAC GCCTTTTTGT CCTTGAGTCt TACAGGAAAT    4920
TGCGCCTCAT TTTATCCATC CGATATTAAA ACAACCGATC CGCAACTTGT ATGATGCTTT    4980
GAAAAAATAG AAAAACTCTA GTTTTCAGTT ACTTGCAACT GAAGGCTAGA GTTTTTATAC    5040
TCTTCGAAAA TCTCTTCAAA CCACGTCAGC GTCGCCTTAC CGTACTCAAG TACAGCTTGC    5100
GGCTAGCTTC CTAGTTTGCT CTTTGATTTT CATTGAGTAT TAAAATAGGT CATTTTCTTC    5160
TGGGAGGAGG ATAGTTTCTC TACCGTCCAT GTCTAAAACC AGTACTCTTG GGGGATAACG    5220
AGGGTCGAAA GGATGGTTAA AGTCAAAATC AATGGCTGTA GGGAGGTGTT GACTTGAAAA    5280
GTGGAAGGTA ATCTTTCCTT GGTTATTAAG CAATTGAAAC TCGAGTTCTT CTTCCAATTC    5340
AAAGACATTT TTTAAGAAAT GGTCGATGAT ATACCAAAAA GAGTCAATGA TGTCATCAGG    5400
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1298

CAAGCTGGTA ACAATACCAA AACTAGCAGA TCGCATGTGG GTATTGGTAA AAGCCATATC   5460

TCTGTCCCCT TTCTTTTCCC TTATCATACA GCAAATAGGA TTAAAAATCA AGAAAAGGTG   5520

ATTTTTTGAA AAGGATTTTA GTTACAGGGA GAAATAGGGA AAAAATTCCT AAAAATCTAC   5580

CGAAGTTAAT AGGTAAATTC CCAAATTAAC TTGATTATAT AACTTTCAGT TACTTTGAGA   5640

AGTTACCGAA AAATATTTTT CATATCTATT GACTTTTAGG GGTAAAATTT GGTATGATAG   5700

TAGGCGGTAT TGTTTACCCC ATTTGAAAGG CCCCGGAACC TTCCAAATAC TTTTCGATGG   5760

GAAGGAACAC CCATCACCGT AAACAAAAAT CGAACTATAT ATAGGAGAAA TCATGAACAA   5820

AACAACATTT ATGGCTAAAC CAGGCCAAGT TGAACGTAAA TGGTACGTAG TTGACGCAAC   5880

TGATGTACCA CTTGGACGTC TTTCTGCAGT AGTTGCTAGC GT   5922

(2) INFORMATION FOR SEQ ID NO: 268:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1988 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:

TAACTATCTA CGATGAGCTG TTGTGATTCT CATTAGTTCC CCTTTCCCAA GAGGCATAGG   60

GGTGCGCATA ATAGATGTGC TCCTCAGAAA ATATATCAAA CAAGCGATTG AATTCCGTTC   120

CATTATCTGC CGTGATGGAA AGAATCTTGT GTTGTTTTAA GATGAGTTTT AGAGCCTGAT   180

TGACCACCTC AGCACTTTTA TTTGGAATCA ATCGGATGAT CTGATGTCTA CTCTTTCGAT   240

CCGTCAAGAC AATCAAGCAG TAGTTTTTCG ATCTCGTAAG TAGAACCGTA TCAATCTCAT   300

AATGCCCATT CTCCAAGCGA AGATTGATAG CTTCAGGCCG CTGTTCGATG GATTGACCAG   360

CAGGTTTAAA GTTGGTGCTA GCCTGTTTCT TAAGCGCTTT TCCTTTTCTA GGGTAAAGCA   420

AATCCTGCTT GCTTAACCCC AATTTTCCAT GATGAATCCA ATAGTAAATG GTTGAAATTC   480

CCACGTTAAC CCCTTTAGCC ATAACCATCA TTTCAGGCGA AAATTTTTGG TTATGATAGT   540

GGAGAATCTT TTCCTTTAGT TCCTTGGTCA AGCTTGATTT CTTGACCGAG CGCTTGCGAT   600

TGTTTTCATA AGACTGTTGA GCGTAGTCGG CAGAATAAAC CTCTTTGAAG CGCCCTTTTC   660

CAAGACATTG TCGGACTGTC CCACGCTTGA TTTCAGTGTG ATAGTTTGAG GAGCTTTTCC   720

AAGTAGAGAG GCAATTTCTC TATTTGATTT TCCTTCTTTT TTCCATCTTT CGATTAAGCG   780

ACGGCTATCG ATTGTCAAAT GTTTGGCTTT TGTAGTATAA TTGTCTTGCA TCTCTGTGCC   840

TTTCTTGTGT TTGTGGTTGA ACAACAAGTA TAACACAGAG GTGCTTTCTT ATGCCTACAA   900

1299

GAGCTTTCAT TATTTCCATT TTCTTTTGGA TTTCACTCTA TTCTGAAAAA CTTGTGTATA   960

TTTACTGAAG CTAGCAAGTC TTACCTGTAA ATTTAATGAA AGCAACACAA AATCCGAGAG   1020

GGGAATCTCG GATTAATAGA TAGAGAGTTT TTAGTTTAAA TAAATTGTTT AAAATATCAA   1080

CAACATCACT TCTTTTCTTA ACCTGATAAG TCTTGATTCC TAATTTTGGG GCTACGATTA   1140

TATTGTCCTC AATATCGTCT AGAAAGACAC AATTTCTAGG TTATAACTGG TATTTATCGA   1200

TAGTTACTCA TATACATCAG TCCACCTCCA TACTTATGTG CGAGCCTCTC TTTGTATTAT   1260

ACCTCCATAC TCACCTTACA GATTCTTTTG GTAATAATAT CTTTGCCTAA TGTAGAGACA   1320

GTCTTGCAAA GAAAAAACTT CCTTGTAGCC ATGTTTCTGA TAAAAGTCCG GTGCCTGGAA   1380

CTGGTAAGTA TTGACAAAGG CAAAACAACA ATTTCGATTC TTAGCTTCAC TTTCTGCCTG   1440

TTGCAATAGT TTTGAACCGA TTCCTTGCCC TCGCAGTTCC TCTTTTACAA ACAAATACTC   1500

GATTTCTAGC CAATTTCCAA AAGTCTCTGC TATCAAACCT GCCAGGAGAT TGCCCTTTTC   1560

ATCTTCGACA TAAAGATTAA GTGGCTCACT TTCAGCCTCT TCTCTTTTTG AACGGTTATA   1620

AACACGAATC AGATTCCCTA TTTCTTGCGA TTTATGTGAT TCCTTATTTT CCAATCTAAA   1680

GTATAGTGAA ATGAAATAAA ACATGCGCAA ATCGATTAAG GAATTTAATC TAATTTCTAA   1740

CAATGTCTTA GAAATCAAAG TGTACTATTT TAACTTCAAT GCACTATACA TCTAATACTC   1800

AATAAAAATC AAAGAGCAAA CTAGGAAACT AGCCGCAGGT TGCTCAAAAC ACTGTTTTGA   1860

GGTTGTAGAT AGAACTGACG AAGTCAGCTC AAAACATAGT TTTGAGGTTG TAGATGAAAC   1920

TGACGAAGTC GGCTCAAAAC ATGGTTTTGA GGTTGTAGAT GAAACTGACG AAGTCAGCTC   1980

AAAACAGG   1988

(2) INFORMATION FOR SEQ ID NO: 269:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 709 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:

CCGGATATTT GTTTTATGTA ATTTTCTTGC AAGTTTCTTC TTAGTAGCTT GTCAGTCAGG   60

TTCTAATGGT TCTCAGTCTG CTGTGGATGC TATCAAACAA AAAGGGAAAT TAGTTGTGGC   120

AACCAGTCCT GACTATGCAC CCTTTGAATT TCAATCATTG GTTGATGGAA AGAACCAGGT   180

AGTCGGTGCA GACATCGACA TGGCTCAGGC TATCGCTGAT GAACTTGGGG TTAAGTTGGA   240

1300

AATCTCAAGC ATGAGTTTTG ACAATGTTTT GACCAGTCTT CAAACTGGTA AGGCTGACCT   300

AGCAGTTGCA GGAATTAGTG CTACTGACGA GAGAAAAGAA GTCTTTGATT TTTCAATCCC   360

ATACTATGAA AACAAGATTA GTTTCTTGGT TCGTAAGGCT GATGTGGAAA AATACAAGGA   420

TTTAACTAGC CTAGAAAGTC CTAATATTGC AGCCCAAAAA GGGACTGTTC CAGAATCAAT   480

GGTCAAGGAA CAATTGCCAA AAGTTCAATT AACTTCCCTA ACTAATATGG GTGAAGCAGT   540

CAATGAATTG CAGGCTGGAA AAATAGATGC TGTTCATATG GATGAGCCTG TTGCACTTAG   600

TTATGCTGCT AAAAACGCTG GCTTAGCTGT CGCAACTGTC AGCTTGAAGA TGAAGGACGG   660

CGACGCCAAT GCCGyTGCTC TTAGAAaATA GTGATGATTT GAAAGAAGT   709

(2) INFORMATION FOR SEQ ID NO: 270:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1680 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:

TATAAAATGT TAAGTTAAAT GATTTCAAAA TTCAGAAAGG GATTGCTTTA TGCAGTTCCT   60

TTTTATTTTA ACAGGAGTGA AACTATAGTG TTTCTAAATT GTGAATCAAT CAAAACTGAT   120

TGTGATGGGG CTATTCTAGC TTTAGAAACC TTCAAAAATT AAAATTTAAG GCAATCAATT   180

ACTTGGAAGA GTATGAAAGC ATTTAGTTTA TAGGAATTCT AGGTCTAGAA TTACATATAT   240

ATATTTATGA AGACGGGGTG TTCGATAGTT AGTATTGTTC TATTCTGAAA GATTTGAGCT   300

GTCAGTTGTA TAGAAAGTGT TCGAATTTTT TTAAGTGATT AAATTAGTTA ATTGTATGAG   360

GTGCTTTATG ATATAATGTT CTTAATGAAT TTTCAGAAAG GAAAACCTCA AATTGTTCTA   420

CAAATTTCTA CTCTTCGACC TCGACCACAC TCTTCTTGAT TTTGATGCTG CTGAGGATGT   480

GGCTTTGACC CAACTTCTAA AAGAAGAAGG AGTTGCGGAT ATTCAGGCTT ATAAAGATTA   540

TTACGTTCCT ATGAACAAGG CTCTCTGGAA AGACTTGGAG CTGAAGAAAA TCAGTAAACA   600

AGAGCTGGTT AACACGCGCT TTTCTCGTTT ATTTGCTCAT TTTGGACAGG AAAAAGACGG   660

TAGTTTTCTT GCCCAGCGTT ACCAATTTTA CCTCGCCCAG CAGGGACAAA CACTATCGGG   720

CGCTCATGAT CTCTTGGACA GCCTCATTGA GCGTGATTAT AACTTGTATG CTGCGACAAA   780

TGGCATTACT GCCATTCAGA CAGGACGTTT GGCTCAATCT GGTCTAGCAC CTTATTTCAA   840

TCAAGTCTTT ATCTCAGAAC AGTTGCAAAC TCAAAAGCCG GATGCTCTTT TTTATGAAAA   900

GATTGGCCAG CAAATTGCTG GATTTAGTAA AGAAAAGACG CTGATGATTG GAGATTCTCT   960

1301

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AACCGCCGAC ATTCAAGGTG GCAATAATGC GGGGATTGAC ACTATCTGGT ATAATCCTCA      1020

TCACCTCGAA AATCACACAC AAGCCCAGCC GACTTACGAA GTCTATTCTT ACCAAGACTT      1080

GCTGGATTGT TTAGATAAAA ATATTCTTGA AAAGATCACA TTTTAAAGGA GACGAGCTAA      1140

TGACTACAAA AAAGCTAATA TTACTATTGA AGAGTACATT GAAATGTCTG AAGTTGATTT      1200

TAATGAAGCT GTTAATTATG AATTTACATC TGACACTTGT CAATTAGCAA ATAGTATTTA      1260

TCAATCTCTT TTTAAGTTTT TTGATAAGAA AAATTTCTCT GGCGATTTAA TTTTTACTTG      1320

GAAATCTCCA TCATTAGTCA AAGAAGGGGA TTATATTGGG AGAAGGGATT CACAAGTAGA      1380

TAATCTTAGA GTAATAGGAA ATATATTTCC GAATTATCTT ACTAATCGAA AATATAGCCT      1440

CAATATGAAT CGTAATGGCT GTATGGGAGA TTTTCCTCAT GACTTTTTTG ATATATACCT      1500

AGATCATGTA GCAAAATATG CCTACGAACA AAAAGTTAAT AATATTAAAG AGTATTATCC      1560

TTTAAAAAGA GCGATTTTAC ACCAAGAGAA TGCATTGTAT TTTCGATTTT TTTCTAATTT      1620

TGACGACTTT TTAGAAAAAA ATTATTTAAA GACTATATGG CAAGTTTCTA AAGAAACTCC      1680
```

(2) INFORMATION FOR SEQ ID NO: 271:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 598 base pairs
         (B) TYPE: nucleic acid
         (C) STRANDEDNESS: double
         (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 271:

```
AGCTCGGTAC GTAGTATnTG TGGTGCATAA ATGAGTGAAA AGAGGATAGA GAGGATGAGG        60

CCGATAAGAA CACCGGTAGC TGCATCGTGA AATACTTGTT TTTTCATAGT TCTAATTTCT       120

CCTTGATGGT TTTTAGATAA CGGCGTGAAG AGTAGGTGAA GCTTTCGTTT TTCAAGAAAA       180

TTTCTACCAG ACCGTTTGGC GTGAgCTTGA GGTGAGAGAT GGAATCGATA TTGATGATTT       240

CTGATTGGGA AATTTGGATA AAATTGGTTG GCAAGAGTTT AAGAACCTGA TAGAGTCGCA       300

AATCAATGCT GTAGGTCTGA CTCGCGGTTT CTGCTAGAAC CTTCCGATTC TCGATATAGA       360

AGCGCTGAAT CTTGCCAATC TCAACTAGAT AGACCTGATC ATCGATTTTT CCTTTGATTT       420

TTTCTCTTTG GTCCAGATTT TCTGCGAACT CGATGACTTT CTGGACTTTT TCGGTTTCTT       480

GAGGTGCTTG GACAATCAGC TTTTCCTCCT CGTAAGTCTC ACTAATCTGT AGTTCTACTT       540

TCATAGTTTT CTCTCCTTTT CAGTTATACA AGGTTGTGAT CACTTCCTGT ATATCCGG        598
```

(2) INFORMATION FOR SEQ ID NO: 272:

1302

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 1099 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 272:

```
CCAGCAAATC AATAACTGCA ATTGCTATAA AATGGATTCT ATAGAGTTTT TTCATGACAA          60

GACCTCCCTC TTTTATCTAA CTTCATTCTA CTCCAAAAGA ATGGGAGTTA CAACTAAAAT         120

GATAAAAATA GCAGAAGGGA GATTCTCTTA AGTTGGCTAG TATTCTTTAT TTGAGTTTCC         180

TTCTATTATC TAACTTCTTC ATCATTCCAG ACAAATAAAG CTCCGATTGC ATTGAGGATA         240

TAAAAGATGT ATTTACCGAT ATTGGCGAAG TTTCCTTGAA TACCAGCTTT TGTCAGCTGA         300

ACGAAATTGT AAATCAACCA AAAGCCCCAC TGAGTTGTTA GTTTTAATGC ATTCAAAGCA         360

TTGGCAATGA GGGACAGTGC AAAGGCAATA GTTGTTACGT AGGCAAGGAG ATTCATCTTG         420

CCCCCATATC CGATATAGTT GGTCACAAAG GCAAAGAGGA AGGCGATGAT GGAAATGATG         480

ATGGCCGCCA ATTTTACCTG TTTTTGGCTC ATTTGGTTGG GTCTGCCTTC TTGCGAAGCT         540

TCCCACTTCT TTATAGCAAA GGTATAAATG AGGAAGGTGA CGGGATAGGT AATGATGGCC         600

GCCTTATTTC CAAGGATATA ATCAATAGCA CCGGACAAAA TGGTATTAAC AATACCAAAG         660

TAATTTCCCC ATTTGCTTAA TTTCCCCGTG AAACGAGTGG ACAACATGGA AATCCCAACG         720

TTGGTTACGG AAATCAATCC AAAGGGTACA AGAGCTGTCC ATGATCCCCA GTCTACAAAT         780

TTATCGAGGT GTGAGTTGAG GTAACCAGAT GCAATCGCAA TCCCAACGAC CAAAGCAACC         840

CCGAAGAGGT CAAACTATTT AGATGTAGCA AAAATTTTTA GTGATTTTTT CATAGGTTAA         900

ACTACCTTTC TTTTTTTCAA ATATTCTCCC ACCAAATGAA AGTAAAATAA AATGATAGAA         960

ATAAAACCCT GAAAATAAAG GTTCTATAAT ATTTGTAGTG GGTAAATCCA CTATAGATAT        1020

TATGGAGCCT ATTTTATTGT AGAAAAAAAG TCCCATATGA CCTATAATGA AAAGCGACAA        1080

AACAACTCAT TAGAAAGAT                                                     1099
```

(2) INFORMATION FOR SEQ ID NO: 273:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2723 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 273:

1303

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CTGGGATTCA CGTGAAAAGG AAGCCCAGAG AGTAGCCAGG TGTACTGCTA GAACAGTGAG        60

TGAAATTGAA TATTACCATA GAGAGTCAAC CCAGATAGCT CAGGCTTTAG TTGAAAATCA       120

AGCTCGTATC GAGGGAATCT ATAAATACTT TAGCCTTAGC ATGCCAGACT ATTTTTACTG       180

GCAATTAGAG CGGAAAGCTT CGCCTTATAT ATCAGTCTCT CTGTATGAAA ATGTTGATGA       240

CCTCTATGTT CGAAATGATT TTGTAACTGG GGTGGCCATT GCTTTTCAAG ATTACAAGGA       300

AGTCTATGTT TCTACTAAAG ACAAACGTAG GkkAGAAAAA ATCAGGGCTG AGGATTTCAA       360

ACCAGCAGGA AATAGTTTTG CCATTCCAGT GTCAGATCCA GTGTCAGATC AAGACTTAGG       420

AGTGATTTAC ATCTCCTTGG ATCCTGCTGT TTTATACCAT GCCATTGATA ATACTAGAGG       480

TCATACTCCG ATGGCAGTAA CAGTGACCTC ACCTTTTGAT ACGGAGATTT TTCATATGGG       540

TGAGACAGTT GATAAGGAGA GTGAAAATTG GCTAGTTGGC TTAACTTCTC ATGGATATCA       600

GGTTCAGGTG GCAGTTCCTA AAAACTTTGT TTTACAAGGA ACAGTGACTA GCTCTGCTTT       660

GATTGTGGGT TTGAGCCTTC TCTTTATTGT CATTCTTTAT CTGACTTTGA GGCAGACTTT       720

TGCTAATTAC CAAAAGCAGG TAGTGGATTT AGTAGAATCC ATTCAAGTCA TTGCTCAAGG       780

CGAAGAGGGG CGTCGGATTG ACATTTCCGA GAAAGATCAG GAATTACTCC TAATCGCGGA       840

GACGACCAAT GATATGTTGG ATCGATTGGA AAAGAATATC CATGATATTT ACCAGTTAGA       900

GCTTAGTCAA AAAGATGCCA ATATGCGAGC CTTGCAGGCG CAAATCAATC CTCATTTTAT       960

GTATAATACG CTGGAGTTCT TGCGCATGTA TGCAGTTATG CAGAGTCAAG ATGAGTTGGC      1020

AGATATCATT TATGAATTCA GTAGTCTCTT GCGTAACAAT ATTTCCGACG AAAGAGAGAC      1080

CCTCCTCAAA CAGGAATTAG AATTTTGCCG TAAATACAGC TATCTCTGCA TGGTTCGCTA      1140

TCCCAAGTCC ATTGCCTATG GTTTCAAGAT AGATCCAGAG TTAGAGAATA TGAAGATTCC      1200

CAAGTTTACC TTGCAACCGC TGGTAGAAAA CTATTTCGCG CATGGTGTTG ACCACAGGCG      1260

GACAGATAAT GTGATTAGCA TCAAGGCTCT TAAACAGGAT GGTTTTGTGG AAATTTTGGT      1320

GGTCGATAAT GGTAGAGGAA TGTCGGCTGA AAAGTTGGCA AATATCCGAG AAAAATTAAG      1380

TCAGAGATAT TTTGAACACC AAGCCAGCTA CAGTGATCAA AGGCAGTCTA TCGGGATTGT      1440

CAATGTACAC GAGCGTTTTG TGCTCTATTT TGGAGACCGC TATGCCATTA CTATAGAGTC      1500

TGCAGAGCAA GCCGGTGTTC AGTATCGTAT TACAATTCAA GATGAGTAGA AAGGGAGAAA      1560

ATGTATAAAG TATTATTAGT AGATGATGAG TACATGGTGA CAGAAGGTCT GAAGCGTTTG      1620

ATTCCCTTTG ATAAGTGGGA TATGGAGGTC GTCGCAACAG CCAGTCATGC CGATGAAGCT      1680

CTAGAATATG TTCAGGAAAA TCCTGTCGAT GTCATCATTT CCGATGTCAA TATGCCAGAC      1740
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1304

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AAAACAGGGC TTGATATGAT TCGGGAGATG AAAGAGATCT TACCAGATGC TGCCTATATC      1800

CTGCTCTCAG GTTATCAGGA GTTTGATTAT GTAAAAAGAG CAATGAACCT TAGTGTGGTG      1860

GACTATTTGG TCAAGCCTGT TGATAAGGTA GAGCTGGGAA ATCTGCTGGA GAAGATTGCA      1920

GGTCAGCTCG GCGAGAGAGG GAAGAAAAGT CAGACTCTTA GTCAAGAATT AGACGAGGCT      1980

GGATTTGTTA GTTATTTAGG GGATAAGGAG AATTGGTGGA TAGGTCTATC CAAGGAAAAA      2040

CAAGGTTCCT TCACCATTCC CTACTATGTC TTGGGTCAAG ACTGGCAGAT TTTCATTTCT      2100

GGCCACCCCC TAGATGGTTT AGTCGTTACA CCTTTTGAAG CTCCTTATCA AGAACACTTT      2160

GAACGCTGGA AGCTGAATGC TGAGAAAACC CTCTTTTACG GTTCTGTAAA TCTGCAGCAG      2220

TCTGAGAGTC TCTTTGCCTA TTACGAACCG ATTTATAGGG TTATCATTCA GGGAAATCTC      2280

AATCAAATCG TAGAAGAGTT AAATCTCTTG GAGAAGGTAG TTCTTGAAAA TACACCTCGT      2340

GTTTCGATTA CTAAACAGCT TTTTATCCAG TTTGTCATGG ATGTTTTCCA TTTATTTGAA      2400

CATCTCAAAG CTGATGATAT GACGGACATT GTCAAAACCA TTCATGCTAT TCAATCCTTC      2460

GATGAATTGG TTTCTTATAT CAAGGAAACT CTGATCAGCT TTTTCGGTCA ATACCGTATG      2520

AATGAAAATG TGGTCAGTGT GCTGGAAGTC ATTGGTCGTG ATTACCAAAA AGAGCTTTCC      2580

CTCAAGGATA TCAGTAAGGC CCTCTTTATC AATCCTGTCT ATCTAGGGCA GTTGATTAAG      2640

CGTGAAACCG ATTCGACCTT TGCAGAGTTA CTAAACAAAC AACGTATTAA GGCTGCCCAG      2700

CAGCTCTTGC TTTCAACTAG TGA                                             2723
```

(2) INFORMATION FOR SEQ ID NO: 274:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 836 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 274:

```
CCGCAGTTTT TTTAAACCGT ATATAAGTAT AGCATAGTCA AAAAAGAAT GCAAGATTTT       60

TGCAAACTTT TTTAAAATTT TTCGTAATTT TTCTTTTAAA GTTCTACTGT CAGGACTTGA      120

CCTTGCTTAA CAACCTGTTC TCCGGCGATA TAAACATCAT CTACATCACT AGATTTAACT      180

GCATAAACCA GGTGAGACAG CATATTTTCC TGAGGTTGGA GATGAATTTT CCCTTGTGGT      240

TGAATGACCA GAAAATCTGC TTGCTTGCCG ACTTCCAGAC TTCCTATCTG ATTTTCCATT      300

CCAAGGACCT TAGCCCCTTC GATTGTCAGT ACCTTGAGAG CTGTTTCGAT TGGAAACTGG      360

CTGGCATCCC CACTTTTCAT CTTCTGAAGA AGAGCTGCAG TCCTTCCTTC CTCAAACATA      420
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1305

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TCTAGATTGT TATTGGAAGC AACCGAGTCA GTCGCAATTC CGACTGCTAC TCCCGCTTTT      480

TGGAGCTGGA TAATTGGAGC AATTCCTGAT GCCAGTTTGA GGTTACTGAT AGGATTGTGG      540

GCGATAGCnA CTTGAGAAGA TGCCAAGCGT TCAATTTCTC TCTCGTTTAA TTCGACCCCG      600

TGAGCAAATA CGGACGGATG ATCTAAATAA CCCAGTTCTT CAAGAAAAGC AAGGGGGCGT      660

TTGCCGTATC GTTTGAGGAT AATTCCTGAC TCCTCCTTGG TCTCCGCCAC ATGGACATGG      720

AGCGGAATAT TTAGCTCTTT TGCCATTTCC AAACTCGCTT CCAGCAAGTC TCTACTGCAG      780

CTATACGGAG AATGAGGTGC TACCATAACC TTGAAATTTG GATTTTTATA TTTTAA        836
```

(2) INFORMATION FOR SEQ ID NO: 275:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2335 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 275:

```
ATTTTATTTC ACTTTTTAGG TGGTCTGGGG CTATTCTTAT ATAGCnTCAA GACCATGGGA       60

GACGGTTTAC AACAAGCTGC TGGAGATCGC CTGGGTTTTT ACATTGACAA ATATACTAGT      120

AATCCTTTGT TTGGAGTTCT GGTTGGTATT GGGATGACTG CTCTAATTCA GTCTAGTTCT      180

GGTGTAACAG TTATCACAGT CGGCCTGGTC AGTGCCGGTC TCTTAACCTT ACGTCAGGCT      240

ATCGGGATTG TCATGGGTGC TAATATTGGG ACAACTGTCA CATCCTTTCT CATCGGTTTT      300

AAATTAGGTA ACTATGCCCT ACCTATGCTC TTTATCGGTG CCGTCTGTCT TTTTTTTACG      360

AAAAATCGGA CAGTCAATAA TATCGGACGC ATCCTCTTTG GTGTCGGTGG TATCTTTTTT      420

GCCCTCAATC TCATGAGCGG CGCAATGGCT CCACTCAAGG ATTTACAGGT CTTTAAGGAC      480

TATATGATTG AGCTAAGTAA GAATCCTGTT TTGGGTGTCT TTGTCGGTAC TGGCTTGACC      540

TTGCTAATTC AAGCTTCTTC GGCTACCATT GGGATTTTAC AAAACCTCTA CGCCGGCAAT      600

CTAATTGATC TACAGGGAGC TTTGCCAGTT CTATTTGGTA CAAATATCGG GACAACCATT      660

ACAGCCATCA TTGCCTCTTT AGGGGCTAAT ATTGCAGCTA AACGGGTAGC AGGAGCTCAT      720

GTTGCCTTCA ACGTTATCGG AACAGTTGTC TGCGTTATTT TTCTAGTTCC TTTTACTGTC      780

CTGATTCATT GGTTTGAAGC TACGCTAAAT CTAGCACCGG AAATGACCAT CGCCTTTGCT      840

CACGGAACCT TTAATATTAC CAACACCATT GTCCAATTTC CATTTATCGG AGCTCTGGCT      900

TACTTTGTAA CCAAGATTAT TCCTGGAGAG GACGAGGTTG TCAAATACGA ACCCTTATAT      960
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1306

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CTTGATGAAC ATTTCATCAA ACAGGCCCCA TCTATCGCTC TAGGAAATGC TAAGAAAGAG      1020

CTCTTGCACT TAGGAAACTA CGCTGCTAAA GCCTTTGACC TTTCCTATAA GTACATCATT      1080

GACTTGGATG AAAAAGTTGC TGAAAAAGGG CATAAAACCG AAGAAGCAAT TAACACCATC      1140

GATGAGCAAT TAACACGTTA TCTCATTGCC CTTTCAAGCG AAGCTCTCAG CCAAAAAGAA      1200

AGTGAAGTGC TTACCAATAT CCTTGATTCC TCCCGTGATT TGGAACGGAT TGGAGACCAC      1260

ACGGAGGCTC TACTCAATCT GACTGACTAT CTTCAACGGA AAAATGTTGA ATTTTCTGAT      1320

GCCGCCTTGA AAGAATTAGA GGAAGTTTAC CGCCAAACTA GTGACTTTAT CAAAGATGCT      1380

CTGGATAGTG TGGAAAACAA TGATATTGAA AAAGCACGCA GTCTTGTAGA ACGTCATGAA      1440

GCAATCAATA AGATAGAACG TGTTCTCAGA AAAACCCACA TCAAACGCCT CAACAAAGGC      1500

GAATGTTCAA CACAAGCTGG GGTCAACTTT ATCGACATCA TCTCACACTA CACTCGTGTA      1560

TCAGACCACG CTATGAACCT TGCTGAAAAG GTTTTTGCAG AACAAATCTA AGAACCAAGA      1620

AGCTATCCAT CATAATTGGA TGGCTTTTTA CTTTTTCCTA AGCAAGACTA GGATGAATGA      1680

AACTGAAAGA GTATTCTGCA GATATATAGT CCCCAATTAT TCACCCCAAA TCTAAAAACC      1740

ATCCAGAATC CTTGCCTTAG CTTAGATCCT GGATGGTTTC TTTTTTCACC CAATGGGTGT      1800

TTTTTACTAG ACAAAAAAGA GTTTCCCCTT TATGGTATAA GTGTAGAAAA AAACACAAAA      1860

AGAAAGGAAA CTCACATGAA CAGTTTACCA AATCATCACT TCCAAAACAA GTCTTTTTAC      1920

CAACTATCTT TCGATGGAGG TCATTTAACC CAGTATGGTG GTCTTATCTT TTTTCAGGAA      1980

CTTTTTTCCC AGTTGAAACT AAAAGAGCGG ATTTCTAAGT ATTTAGTAAC GAATGACCAA      2040

CGCCGCTACT GTCGTTATTC GGATTCAGAT ATCCTTGTCC AGTTCCTCTT TCAACTGTTA      2100

ACAGGTTATG GAACGGACTA TGCTTGTAAA GAATTGTCAG CTGATGCCTA CTTTCCAAAA      2160

TTGTTGGAAG GAGGGCAGCT TGCTTCACAG CCAACCTTAT CCCGTTTTCT TTCCAGAACT      2220

GACGAGGAAA CAGTCCATAG TTTGCGATGC CTCAACCTTG AATgGkCGAA TTCTTTTTAc      2280

AGTTTCACCA GCTAAACCAA CTCATTGTAG ATATCGATTC TACCCATTTC ACAAC          2335
```

(2) INFORMATION FOR SEQ ID NO: 276:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 752 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 276:

```
CGGATTCACT GTTGTTGACT AATCAATAAC ACAGTAGAAA ATCTCACAGC AGTCTATTAG      60
```

1307

TTGCTTTTCA TACTAGGCAA GTGACTGAGG CTTGTACTTG GGTACAGCAA GGGAGCTTAA   120

GGCCGTAGAA GAGAAAAATA GTAGACTGAA AACCCGCAAG ACTTCATCAT TTCGAGAAGT   180

GACGTGGGAG ATGAAAATCG ATTGAACCAC TTACAAGGAG AATAGAAAAT GGCTAAAAAA   240

AGCAAACAAC TTCGTGCTGC TCTTGAGAAA ATCGACAGCA CAAAAGCATA CAGTGTAGAA   300

GAAGCTGTAG CACTTGCAAA AGAAACTAAC TTTGCAAAAT TTGATGCAAC TGTAGAAGTT   360

GCTTACAACT TGAACATCGA CGTTAAAAAA GCTGACCAAC AAATCCGTGG AGCAATGGTA   420

TTGCCAAACG GTACTGGTAA AACTTCACGT GTTCTTGTTT TCGCACGTGG TGCAAAAGCT   480

GAAGAAGCAA AAGCTGCTGG TGCAGACTTT GTTGGTGAAG ATGACCTTGT TGCTAAAATC   540

AACGACGGTT GGTTGGACTT CGACGTAGtT ATCGCTACAC CTGATATGAT GGCTCTTGTT   600

GGACGTCTTG GACGTGTCCT TGGACCACGT AACTTGATGC CAAACCCTAA AACTGGTACT   660

GTAACAATGG ATGTTGGCAA AGCGGTTGAA GAGTCTAAAG GTGGTAAAAT CACTTACCGT   720

GCTGACCGTG CAGGTAACGT TCAAGCAATC AT   752

(2) INFORMATION FOR SEQ ID NO: 277:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2643 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 277:

GTCAACATTG ATTTCAAGGC TGTTTGCTTT CTATCTCCCC TTTTTCATAA TGTATAATAA   60

AATGAAATAA TAACAGGACG AATTGATCGG GACAGTCAAA TCGATTTCTA ACAATGTTTT   120

AGAAGTAGAG GTGTACTATT CTAGTTTCAA TCTACTATAT TTTCGTACAG GTGCTTCAAC   180

CATTTGAACG ATTTCAAATC CTTCTTTTTG GTAAAGATTC TGAGCTCTTT GATTTGCCTC   240

GAAGACATTT AGAGAAATAC TGTCTATATC TCTATTTTCA AATGCTAAAC TAACAAATTT   300

CCTTAAAGCC TTGCTACCTA AGCCTTGCTC CTGTTTCTGG GGGTTGATAA AAAATCTCCC   360

GATATGAAGA TTGCTGTCTT CTAGCCTGAT TTTCTGGATA AATCCCACAA ACTCTTGTTC   420

ATCAAAGATT GAAAAGACTC CTTCCAAGGC TTGAAGTGTC AGTAGAAAAG GAATCCTTGG   480

TCCCATCCAT TGTTCTTGAA AGGATTTGCC TAGGGAGTTG GACCACTGGC ATACAAATTG   540

AGCGTTTTCT GTGCTCACCT TTTCTTCAAA ACGAATTGTC ATCTTTTCCT CACCACCTTA   600

TCTATGTTTC TCCATTATAC TATTTCTCCC ATTTTTTACG AATAGATAAG TATGATTGAT   660

1308

```
TTTTATTTTT TTCTCGTCGG GAGCATTCTA GCTTCCTTTC TTGGTTTGGT CATTGACCGT     720

TTTCCAGAGC AATCCATTAT CAGTTCAGCC AGTCACTGCG ATTCCTGTCA GACTCCCTTG     780

CGTCCCTTAG ATTTGATTCC GATTCTCTCA CAGGTCTTCA ATCGCTTTCG CTGTCGCTAC     840

TGCAAAGTTC GCTATCCTGT CTGGTATGCC CTCTTTGAAT TAAGCTTAGG ACTCCTCTTT     900

CTGCTTTACT CTTGGGGATG GCTCTCCTTG GGGCAAGTCG TCCTAATCAC CGCTGGTTTG     960

ACCTTGGGTA TCTACGACTT TCACCATCAG GAATATCCCT TACTGGTCTG GATGACTTTC    1020

CAGCTAATCC TAATAGCTTC CTCTGGCTGG AATCTGGTCA TGGTCTCCTT CCTCATACTT    1080

GGAATTTTGG CTCATTTTAT CGATATCCGC ATGGGTGCAG GGGATTTCCT CTTTTTAGCT    1140

TCTTGTGCTC TCGTCTTTAG CGTAACGGAG TTACTGATCT TGATTCAGTT CGCTTCTGCG    1200

ACGGGTATCC TGGCCTTTCT CCTGCAAAAG AAAAAGGAAA GACTTCCTTT CGTGCCTTTC    1260

CTCTTACTTG CTACTTGTTT GATTATTTTT GGTAAGCTAC TGCTTGTCTG ATAAAATCCA    1320

ATTTCTGCCA TATATCCTTC ATGAAATTAT TTCACAGTTA AATTATAAAT TATTTCTTTT    1380

GTACAAAGGG ATGATGTTAT CAAATCGATC TGTTCTTCTA TCTTCTTGAT ACTGATCAAA    1440

AAATTTCATT TCGACTGAAA ATATTTCGCT TATAAACTGT AAACGAATAC TTTGTTTAGA    1500

CATTATAGTC GCTAGACTGA CTAGATGATT ACTCAAAACG ACGTCCAGAA TACTCTTTAC    1560

TTTGCTTGGT TTTTTAACAA AAATTTGATC ATCCAAGGGT TCAATCATTT TGTAACCTTT    1620

TTGCGCAATT TGACGATAAA AGTAAGAATG TTGCTTTGGA GTCAATAATC CTAACTTAAA    1680

AGCTCGATAC TCTAAAGCCT GTATCGAAAC ATTCAAATCC GACTTCAATA AAATATAACT    1740

ATCAGGATTG CTGACACGCT TGCCAACCCT CTCTTCAAAT TTGACTAAAA ACTCTTCTTT    1800

TGGCAATAAA AAACATGATG CAAAATAATT TGCTTCTTGC TCCAAACGAT CGCCATCTTC    1860

ATTCATATCT TTATATTTAT GTAAAAGAAT ATGTCCTAGC TCATGAGCTA AGTCAAAATT    1920

TCGACGTACA GATGATTTAT TCGTTCCTAA CACAATATAA GGTCTTCCCA ATTTTGACCA    1980

TGCGCTATAA GCATCAGCTT GGCCATTAAT TAATCGTTCC ACGATATAGA TGCCTGAACG    2040

TTCTAATTTA TAAAGCAAAT CATGATTATC TTTTGAAATA CCTAATTTTT CCCTGGCATA    2100

AAGAGCCAAT TCCTCAATGG ATTCTCCCTT ATGATAAGAT TCACTCACTA CATTACTTAG    2160

GTCATGAATT ATAATATTAG GTATAATTAC AAAACTTTCA AAATAATCAA TCAAACTATC    2220

TACCTTATGT AAATACATAG TTTGAATATC TATTGTTTTC CGTGTTGCTA GGTCTGCATT    2280

TCTAAAGGCA ATTACAGAAG AATCAAATCG AATGCTCTCT TCTTCCTGTT CAAAATAAGT    2340

TAAATCAACA TGAAATTGGT TGGCCAAATG CATTTTGGTT GATAATTTAG GTTTCGTTTC    2400

GTTGGACTCA AACTGCCAAA TGGCTTGTTC CGTTAAATTA ATTCTCTGAG CTAATTCTGC    2460
```

```
TCTACTTAAA CCATTTAACA GCCGTAATTC TTTCAATACC CGACCATTAA ACATTTACAT      2520

ACTCCTTACT ACTTTTGACC TTCTTGTTTT TCTATTCTTG GAATAATTTC AAAATCTTCT      2580

GTTTCCGATA ATTCTGAAAA ATTAGGAATA TCTTGATATT TAGCTTCTTC GAAATGGTAC      2640

GGG                                                                   2643
```

(2) INFORMATION FOR SEQ ID NO: 278:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 582 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 278:

```
TGACCAGTGG CAAAATGGCT ATCCAAATGC AGATGTTATT ATCGATGATA TCATCTCAGG        60

GCAAGCCTAC GTAGCCTTGG AAGAGGGAGA ACTGCTAGCC TATGCTGCTG TGACCAAGAG       120

TCCAGAGGAG GCCTATGAAG CTATTTATGA GGGAAACTGG CAAGCTGGAG AGTCAGAGTA       180

TCTAGTCTTT CACCGTATTG CTGTGGCAGC AGATGTGCAG GGAAaAGGAG TTGCTCAAAC       240

CTTCTTAGAG GGCTTGATTG AAGGTTTTGA TTATCTTGAT TTTCGCTCAG ATACGCATGC       300

TGAAAACAAG GTTATGCAAC ATATTTTTGA AAAACTTGGT TTTAAACAAG TCGGTAAGAT       360

GCCAGTAGAT GGCGAACGCT TGGCCTATCA AAAATTAAAG AAATAATGCA AAAGAAGTAT       420

GTAAAAATCC TCTACTCCTC ACCAATTGGT ATTCTATCAC TTGTAGCTGA TGACCATTAT       480

TTGTATGGAA TTTGGGTTCA GGAGCAGAAG CATTTTGAGA GGGGACTAGG AGATGAAACG       540

ATAGAAGAAG TTGTwAGTCA TCCTATTTTA GACCCAGTTA TT                         582
```

(2) INFORMATION FOR SEQ ID NO: 279:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 554 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 279:

```
CCCAAGCTAC TAAGAGACTA AAACTTGCTA GAGAAGCAAG AGAAAGTGTG AATCTTTTTA        60

ATTTCATGAT GAATTTCCTT TCTGCTACCA ATTTAGAGAA ATTTTCTCTA ACCAGCAATT       120

CCCCTAGTAT AACAAGTTCA AAAAATGGAG TCAATTTATC TGCTCACGGT CCAGCAGGTA       180
```

1310

```
GCCCCGTACT TCTGAGATAA AATAGAGAGA CCCTGTAACG AACAGCAAGT CTTGAGCGTC      240

TGCCCTTTCT TCAAAATCGC TGATAAATTC TCGGTAAGAA GAAACTATAT CGTAACCTGT      300

CACATCCCTT TCGTCCAAAG CCCCCTGATA GTCAAAGCCG GTCACCTTGA GTTCCACCTG      360

AGGCAATTTT TCAGTCAGAT AACCCAACAT CCCTTGATAA TCCTTACGTT TCAAGGATCC      420

AAAGAGGATT TGAGGTCGAT AGCCTTCCTG CTCTTTTTCT TTGATAAACT CAGCCAAGCG      480

AGTCAAGGCA GGGAGGTTAT GAGCACCATC CAAATAAATC TGTGGGCGAA TACGCTCCAA      540

GCGAsCAGCC CAAT                                                        554
```

(2) INFORMATION FOR SEQ ID NO: 280:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 766 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 280:

```
CCGGTTTTTC AAATGAATTT CTTGGTTGTG GCTAAAAAAT ATGCTACACT ATCAATATGA       60

AAATTTTAAT CCCAACAGCA AAAGAAATGA ACACAGACTT CCCAAGTATC GAGGCAATTC      120

CTTTAAAACC AGAAAGTCAG GCCGTGCTTG ATGCCTTGGC TCTCTATTCT GCCAGTCAAT      180

TGGAGAGTTT CTACAAGGTA TCAGCTGAGA AAGCGGCGGA AGAATTTCAA AATATCCAAG      240

CTTTGAAAAG GCAAACTGCT CAACACTATC CAGCCTTGAA ACTTTTTGAT GGGCTTATGT      300

ACCGCAACAT TAAGAGAGAT AAGCTGACCG AGGCGGAACA AGATTATCTT GAAAATCATG      360

TTTTCATTAC CTCGGCTTTG TACGGTGTTG TTCCAGTCTT GTCACCCATG GCTCCTCACC      420

GTTTGGATTT TTTGATGAAA TTAAAAGTCG CTGGTAAGAC TTTGAAGAGC CATTGGAAGG      480

CAGCCTATGA TGAAACTCTG AAGAAGGAAG AAGTGATTTT CTCTCTCTTG TCATCAGAGT      540

TTGAGACTGT ATTTTCTAAG GAAATCAGAG CAAAGATGGT GACCTTCAAA TTCATGGAGG      600

ATAGAGGCGG TCAGCTGAAG ATTCACTCAA CTATCTCCAA GAAAGCGCGC GGGGCCTTTC      660

TAACAGCTTT AATAGAAAAT CAAGTACAAA CTGTGGGGGa AGCACGTCGC TTGAACTTTG      720

CTGGATTTGT TTACCGAGAA GATTTGTCAC AACCACAGGG GGATGG                     766
```

(2) INFORMATION FOR SEQ ID NO: 281:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 901 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1311

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 281:

```
CCGGCCACGG TTCCATCCAA CTTCACAGGT GTGCACTTGA TTGTGTATGT AATTGTCACT        60
AACGGTAGAA TTTCACCTAT CCCTCCTATC TGCTCGCAGT ACCCGCAGAC TTTCTGAAAG       120
AAGAAGATAA CCTACTTATC CGTTGCTATG ATTATACTAA AGTTTCTACT TTTTTGCAAA       180
TAGATTTTTA AATTTTTGGC TAATTGTCTG AATCAGGGTC GGAAGTTTGA CGACCTTGTC       240
ATTGCCTAGT TTTTCGCGTG CAATTTTGAG AATGGCACCT GAGTCTTTTG AAGCAAAGAG       300
GAATTTTCCT TTGTCTGTAA AGACTTCGAA GTGGCGGCTG ATTTTGCGTC CAGTGACATT       360
GGCTCCAATC TGATTGATAT GGCTCCAAGG AATCTGGATA AATTGTTCGA CATTGACATC       420
TGGGTAAAAT TCCAAAGCCT GATCTCCGAC AAGGAATTTC CCAACTTTCC CAGCGATAGA       480
GAGGTAGGAA GTGCCTGTCG TACTGAGGAG TACTGTTTTG TTAAGTGATT GGGCCATGCT       540
TAGTCTTCCT TACTTTCTCC AAAAAAGGCA TTGTAGAGGG CTTTAATTGC TGCTTTCTCT       600
TGGTCTTTAT TGACAACAAA CATAATAGAA ACTTCACTAG AACCTTGAGA CATCATCTGG       660
ATGTTGATTT TGTTTTCAGA TAGAGCGCGT GTCGCAGTAG CAGTCACTCC GATATGGCTC       720
TTCATTTTTT CACCAACAAT CATAATGATA GAAAGGTCGT GTTCGATTTC TGCATGATCT       780
ACTTTAGCCT TTTGAACCAA CTGACGCAGG ATTTCTTCTT CCTTGATGGG AGTTAGTTGG       840
CGAGAACGGA GAATGATAGA AAGAwCGTCG ATACCTGTTG GCATATGTTC CCAACCGATG       900
T                                                                       901
```

(2) INFORMATION FOR SEQ ID NO: 282:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1765 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 282:

```
CCCTGTTACG TGGATAATAG GGTAAGACTG CTCAGGATTT CCTAACAAAT CCACCGCTTG        60
CTGCATTCGA CCCAAACCTG ATCGAAAATT CAAACCAATC CGACTATGGA GCCATTCTTC       120
TACTTCAAAC ATACACATCT CCTTGACAAA AGTCCAATCA ATTATCGCAT TAAAGTATGG       180
TTACTAATAA AAACAAGGCC AGGATTTTCG TCCCGACCTC TTACCTGGTT AGCTAATAAC       240
TAGCTACTAT GAATGTGAAT ATGGGCTAAA AACATCCACT GGACGTTCCA ACTCTTCCCC       300
```

1312

```
ATTTCTGGGA GTTGGGGTAA AAATGTTCAC TGGACGTTCC AACTCTTCCC CATTTCTGGG      360

AGTTGGGCTG ATACAGTCTC CCAGACTGTA TCACTCCTCC ATAAAGCTGT TGAAGACTTC      420

TTCAATCATG TTCCATTCGT CTTCTGAGTC TTCTGGGATT GGTTGCAATT CGCCTTCTGT      480

TCCATCTTCG TTTTCGATGA ATGAGTAAGC TTGGATTTCA ACTTGTCCGT CTTCGTCTTC      540

TTCTGCGTTA ACTGGTACTA GAAGAACATA GTTTTTACCA AATTCTTCTT TTCCATCAAT      600

TGTCAAAAGG ATTTCAAACA AGGTTTCATT TCCTTGCTCA TCTACTAGTG TGATTAGTTC      660

ACGTTCTTCG TGGTCGTGGT TATGATCGTG TGACATAGCC TCGCCTTTAT ATTAAAATTT      720

TCTATCTAAA TAATTTTGTA AAATCAGCTG AGCTGCTAAC TTATCAATGA CTTTCTTGCG      780

CTTATTGCGA CTGATATCTG CTTGTTCAAT CAACATGCGC TCAGCAGCCA CTGTTGTCAA      840

GCGTTCATCC TGATAGTCTA CTGGTAAACC AAAAAACTCT TCTAGCTTTG CTCCGTAGCT      900

TGACTAGCTT CTACGCGCGG TCCACTTGTA TTGTTCATGT TTTTAGGCAA GCCCACTACA      960

AATCGTTCCA CCTTGTAAGT ATCAACCAAT TCCTTAACGC GGTCAAAACC AAATTGGCCT     1020

TGTTCTTCAT TTATCTGGAT GATTTCAAGC CCTTGAGCTG TAAAACCAAG CGGATCGCTA     1080

ATCGCCACCC CTACCGTTTT TGAACCGACG TCCAATCCCA TAATTCTCAT AGGTTATAGA     1140

TCGACTCCTT GTCCTTTGAG GTAGTAGCGA ACCAATTCCT CAACGATTTC ATCACGCTCA     1200

TACTTACGGA TTTGATTTCG TGCATTATTA TAACGAGGAA CGTAGGCAGG GTCTCCACTC     1260

AATACGTAAC CTACGATTTG GTTAATTGGG TTGTAaCCCT TATCGTTCAA CGAAGCATAA     1320

ACATCTGTCA AAGTTTCGCT AATTTCTTTT TTATTGGAAT CGTCCAATTT AAAACGTACT     1380

GTTTCTTCAG TAAATCCCAT TCTAACACCC TCTTTCCTTA GAATAGTACC ATTATAGCAT     1440

AATTCCTTAC CTTCTACAAT TCAGGCAGTC TATTTATTTG GATTTTCTAT TGTTCTGTCG     1500

CGCCATTTGC CAATCTATCT GAAATATATT TGCTTGGTTC ATTTTTCAAA AGATTTTCCA     1560

AACCAATATT CTTCAGATGT TCCAACTGGG AAGCCTTCTT GACATCCAGA ACTTGAAAAT     1620

CAAAACTAGT CGTTGTTTGA AGTTCCGTTG CGCTCAATAG TTTTGTTTCA AGTTTGAAAC     1680

CTGCCAATTT ACGAGCTTCA ATGATAGACT TATCCTTCTC CTCCGCTTCA AGAAGAGCTT     1740

TTTGAGTTTC CTCCACTCCA TGTTG                                          1765
```

(2) INFORMATION FOR SEQ ID NO: 283:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 1346 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

1313

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 283:

```
CTTATCCATT CACTTTCTTG TCTGTTATTC TATAAATCTT ACTCCTAAGT ATACCACATT          60

TGCCCCTAGA TGTGAACGAG AGAAACGCTC TAGACATTGC CAAGAAGGAA AAAAAAGGGT         120

ACAATGTAAC AAAATCAAGG GAGGTCTGGA ATGAAGAAAC AAAGCAAGTA CAAAGAGGTC         180

GTTTCCTATC TGAAAAATGG TATCGAGTCT GGACGATTTC CGACGGGTAG TCGCCTGCCT         240

TCTATCCGTC AACTGAGCCT TGACTTTCAC TGCAGCAAGG ACACCATTCA ACGAGCCCTG         300

CTGGAATTAC GGCACGAACA ATACCTCTAT GCCAAGCCTC AGAGTGGCTA CTATGTATTA         360

GAACAAGGGC AACATCAAGA CCTAGAAATC GAGGTTACCG ACGAACATGC CAGTGCCTAT         420

GACGATTTCC GACTCTGTGT CAATGAAACC TTGATTGGCC GAGAAAACTA CCTCTTCAAC         480

TACTATGACA ATCAAGAAGG ATTAGAAGAC CTAAGACAGT CCATTCACAA ACTCCTCTTT         540

GAGCAAGCTC TCTACTGCAA GGCTAACCAA CTAGTACTGA CTTCTGGAAC CCAACAAGCC         600

TTGTTTATCC TCTCTCAAAT ATCCTTTCCT AGACAAGCCA AGGAAATCTT GGTGGAACAG         660

CCAACCTACC ATCGGATGAA TCGCCTCTTG ATTGCACAGG GGCTGGACTA TCAAACGATT         720

GAACGAGGCA TTGATGGGAT TGACTTGGAG GAGCTGGAAG GCCACTTCAA AACAGGAAAA         780

ATTAAGTTTT TCTACACCAT TCCCCGATTT CACTATCCCC TGGGACATTC CTATTCTGAG         840

CAAGACAAAC GATCTATTCT TAACTTAGCT GCCAAGTATG ATGTCTATAT CGTAGAGGAC         900

GATTATCTGG GTGATTTGGA CTCCAAGAAG GGCCAAACCT TCCACTATCT TGATACAGAG         960

GAGCGTGTCA TTTATATCAA GTCCTTCTCG ACCAGCCTTT TTCCTGCCCT TCGTATTACA        1020

GCACTCATTC TTCCAAATGC TATCAAAGAA GCATTTGTGG CCTACAAAAA TATCCTAGAC        1080

TACGACAGCA ACCTCATTAT GCAAAAGGCC CTGTCACTCT ATATTGACAG TCAATTGTTT        1140

GAAAAAAATC GTTTGGCTCG CTTGACCAAT CATGAATCTT ACCAAAAACA AATCGAGGAA        1200

AGGATAACTA AAACACCTTG TCCCCTTCCT CATTATTCCC TACACGATGG yTTATTGCTA        1260

GACCTGAGAC AGTATCCTAA AATCGCCAGT CTCAAACACA GTCAACTGGG cTTGGACTTC        1320

TTTGAAGAGG CCTATTTAAG CACCTG                                            1346
```

(2) INFORMATION FOR SEQ ID NO: 284:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 900 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

1314

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 284:

```
CTATATTCAG AAATATGCCAA AAATTCGGAA TGGTATAAAT TTGCGGAGGG TTCATTTGAC          60

ATATTTAGAA AACTCCCCCA AAGAATTAAT TTTAAGAAAG ATTTTTCTAG AATTTTGGCC         120

CCCTTTATTA TTAATTTGCT TAAATTAATC AATAATTATC TAGAGAATAA AGAATACGAG         180

TGGATTGACA AGAATGGAAA TATTTTTTCC TCTCTAGTAT TTTATTTAGA AGATTTAATC         240

TATCCTTGGA TTGTTAAACC TTTGGTTTTA GAGATAAATT CATTGCGTGA AAAAGGTTTA         300

CTTGAAGGGG AATCGGAGCA GCAACGGTAC AAATATTTTA TAACATTGTT TGACAAGGAA         360

GAGAATATAT TAAATTTTTA TAACAAATAT CCCGTTTTAC TGAGGCAAAT ATCGGAGTCT         420

TGTCTTCGGT TCTATACTTA TTTTATAGAA ATTTTATCAA ATTTAGAAAA TGATTTTAGT         480

GTGCTAGAAG AAGAATTAGG GCTAAGGGGG AAATTAAATG ATATAAAATT TGGAAAGGGT         540

GATACACACA GCCAAGGAAA AACTGTTTTG ATACTCTTCT TTGATGACGC GAAAATTGTT         600

TACAAGCCTA AAAATTTAAT AATCAATAAC TCACTAAATA CTATTGCTGA GTATATCCGA         660

AAGGTTGATG AAAAAAATTAG GATAAGAATA CCTCGAACTA TTGCTTATTC GGATCACAGC         720

TATGAAGAAT TTATTGATTA TCTACCTCTA GAGCAAAAGA AAAATTTACC TGAATATTAT         780

TATAATTTTG GTGTGCTTTT AGCATTTATA TATTTATTTA ATGGGAGTGA TATACATTTT         840

GAAAATTTAA TTTCCTATGG AGATATGCCT GTAATAATAG ACTTTGAAAC AATGTTACGG         900
```

(2) INFORMATION FOR SEQ ID NO: 285:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 862 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 285:

```
TTATTTAGCA GAGGCAGTTT TAAATGTGAA GGATTTGGTC AGTCAAACAG TTTTTTATCA          60

GCAGATTATT GGTTTAGAAA TCCTATCTCA AACGGATACA GAGGTCGTTC TGGGACTTGG         120

AGGAAAAGCC TTGGTACACT TGATTCAAGC ACAAGAGGGT GGAGAAGTAA GGGAACATTA         180

TGGTCTTTAC CATCTGGCTA TTCTTTTGCC GACACGAAAG GCTTTGGCGG ATGTCTTGAA         240

GCACCTGACG GATTTACAGA TTCCTCTTGT TGGCGGTGCA GATCACGGTT ACAGTGAGGC         300

CCTTTACTTA GAGGACTTGG AGGGAAATGG CATTGAACTC TATCGAGATA AGCCAGTTTC         360

CACATGGGAT ATTCGAGAAG ATGGACGTAT TATCGGGGTG ACTGAAGTCC TTGCGGCTCA         420

GGATATCTAT GAGTTGGGGG AAAGAGTAGA GCCTTTTATC CTAGCAGAGG GTACGAGAAT         480
```

1315

```
GGGGCATATT CATCTTTCTG TCAAGGATAG TCGAAAGTCC AGACAGTTTT ATCAAACGGT        540

GTTAGGGCTC GAGGATAAAT TCAGTGTGCC TAGTGCTAGT TGGATCGCAG CTGGGGACTA        600

CCATCATCAT TTAGCAGTCA ACGAATGGGG AGGAAAAGGT CTGGATCCGC GTAAACAAGT        660

CCTACCAGGT TTAGCCTACT ATGTCATCGA AGTCGCACAT AAAGAAGAAC TGTTAACGAT        720

TGCCCAACGA GCACAAGAAG TTGACGCACC AATCAAATGG ATGACATCGA TCCAATTGGA        780

AATCACAGAC TCAGATGGCA TCGTGACCCG TATTCGTTTA GCTAGATAGA TGGTATGTGA        840

TGAAGGTAGA GCATCAATTG TA                                                 862
```

(2) INFORMATION FOR SEQ ID NO: 286:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 650 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 286:

```
TCGTTTACAA GATCGCTAAA ATGCATCTCA TGATCGCGAC CACGAATTCC AAGATAGCAC         60

GCGCTACCTC AATCATAGAT AGTTCACTTT TTTCTTGCCC AGCAAATACT TCTAATTCCA        120

AAGCGTTTCT CCTCATTTAT ACTACTATCG CCAGAGCGAA CAGACTCTGA CCTCATTTTA        180

TCATTTACTC TTTATTTTAC GATAATTTTG CGGAATAGTC AAAGGTTAAG GGGGAGAAAG        240

TGGCAGGATT AGACTAATTC CAATATAAAA CTCATTCCTT TTTCTGTTGC TCCATTTTCC        300

ACAAATCCAA GCGACTTGAA ACACCTCCTA GAAGCATGAT TGTAGGTGTA GATTTTCTTG        360

ACTCTCAATT CTTTCCATCC TTTTACTCGA GCCAATTCAA TCAAAGCACT TAGAATCTTT        420

TTTCCAAGTC CTCGATGTTG GTAAGCGGAA TTCCCAATCA CAATGGGGAG ATTATCCTGA        480

GATAGTGTAA TATCCCCAAT TGGAAACCAT TCTCCCTTCT CCTTGACTTC AATCCAAAAA        540

AGCTCACCAT GCCGATyCAr ATAGGAATAC ATGGCTTCCA AGGTCGcTtG ACTGTAAGGA        600

AGCTTCACCC CATCTACGAG GtAAcCAAGT TCACATCCGT GATACCAAGC                   650
```

(2) INFORMATION FOR SEQ ID NO: 287:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1119 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1316

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287:

GATAGCAATC CGCTTCAGAA ACTTCTCGCT TACCTCTAAC TCCGATCGCT AGTTTGGGAG   60

AAGATACTTC CATTCTCATA CTATCTGTTG GCTTTGCAGG CTGTAAAAAC AACTTTTCTC   120

TTGCTACTTC CTGAAAATCT GAATCTTGCA GTTCTTTGCT TTCAAAATAG TCCTGTACTC   180

GCTCCACATC AAAATTCCCA GCTAAAGACA GAGACATGTT TACAGGTTTG TAAAACTTTG   240

TAAAATTTTC TTGCAAATTA GTTAGATTGA TTTGGGAAAT GGACTCCTCA CTTCCAACTA   300

TATCAGTTGC TAAAGGTGTA CCAGGATACA AATTCGCTAA AGTTGAAAAG AATAAACACG   360

AATCTGGATC ATCTTGGTAC ATTTCTCGTT CTTGCTGAAT AATATCCTGC TCTGTCAGAA   420

TGGAAGCTTC AGTAAAGTGT GCTGATGTTA CCAATTCATC AAGTAAATCT AAATTTTCTA   480

AAAAATAATC CGTTGCTGAA AAAAGATAGT TTGTTTTTGT AAAGCTTGTA AAGGCATTAC   540

TATCTGCACC TAGACTCGTA AAAGCCGACA TCAAATCACT AGAATCTTCT CTCTCAAATA   600

ATTTATGTTC AAGAAAATGA GCAATTCCTC CAGGATATTG TTTTACATCT CCGTCAACTT   660

CTGTGACAAA CGTATCTACC GAACCAAACT GTACAGTGAC ACTCCCGTAA ACCTCTTTAA   720

ATTCCTTTTT AGGCAAAAGA GCAACTGTCA ATCCGTTGGC CAAACGAGTT CGATAAACCA   780

TTTCTTTTAC AGCTGGATAG TATTTTTCTT CAAAAACAAC CTTTGTCATT CTATTCCTTC   840

CATAAAGTAA ATCGCTTGTA GTTTCACATT ATTAGCTACT CTACAAATAG CATCTTTGTC   900

AATTTGTTCA AGCTTTGCAA TCCAACTTTT AAAGTCTGCT GAAGATTTTC CAAATAAGGC   960

ATTTTGATAA GCACGTTCAA TCAATGAAGA ATGATTATCT TGAGAAAGTA ACAACGACCA   1020

ACGAATCATT TCCTTGGTCT GATTTAACTC AAACTCTGTA AAAAAACCTT TTTTTAAATC   1080

AAGCCGTTGA TTATTCATCA ATTTACGAGC CTGGTTACG   1119

(2) INFORMATION FOR SEQ ID NO: 288:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 540 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288:

ACGCCCTCGC GGGGACATGA CGAATTCCCC GTTCATCACG AAGGCCGCCG AGGAGTGGGG   60

GGTGCCGTCC AAGTCAAAAG CGGCCCCACA TCGATTCAGT TCCCCGACGA ACAGCCCTTT   120

CCCCCAGCGT TCCTGGCTTT GCAACCGTTT CACAACAGCC TCGTAAAGTA GGCCGGACAA   180

GGCAGACGGA CTCCAAAGGA GTTCTTCCAT CTGCAAGTGC GCCTGCGTTA TGTGATCCCG   240

1317

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GTCTTTTGCA TGTGTGTGGC ATGAATGCTG TTCCCAATCC CACTCCAGAA CATTCTCCTC      300

AAAAGTGCGC AACGTCGCCC TGAATGAATC CTGCCTTGTA GTCGTGACCA TTCCTATGAA      360

GGGTCGCAGA GGATTTTCCC CGAGTGCAAG CGCATCCTCC GGCTCAAATC GGGTGCATTT      420

CACAGTCCCG CTCAACGCTA GCCCGATCCC TTTTTGGCAT GGTGACTCAA GCGTCCTTTC      480

AAACAAAAGC TCCTCATCCG CTCCAACCGG CCCGACGTAG ACGCGTAGAC CGAAGTCGTC      540
```

(2) INFORMATION FOR SEQ ID NO: 289:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1949 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 289:

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AAAGAATTCG ACCAATTCAA GGTTGAGGCA TCGCAAACTA TGGACTGTTC CCCCGTCAGT       60

TCTGGACAGA AAACGGGATA AGGTTGGCTG TGAAGCAAGC TGCCCTCCTA CCAACAATTT      120

TGGAAAGTAG GCATCAGCTG ACAATTCTTT ACAAGCATAG TCCGTTCCAT AAACCTGTTAA     180

CAGTTGAAAG AGGAACTGGA CAAGGATATC TGAATCCGAA TAACGACAGT AGCGGCGTTG      240

GTCATTCGTT ACTAAATACT TAGAAATCCG CTCTTTTAGT TTCAACTGGG AAAAAAGTTC      300

CTGAAAAAAG ATAAGACCAC CATACTGGGT TAAATGACCT CCATCGAAAG ATAGTTGGTA      360

AAAAGACTTG TTTTGGAAGT GATGATTTGG TAAACTGTTC ATGTGAGTTT CCTTTCTTTT      420

TGTGTTTTTT TCTACACTTA TACCATAAAG GGGAAACTCT TTTTTGTCTA GTAAAAAACA      480

CCCATTGGGT GAAAAAAGAA ACCATCCAGG ATCTAAGCTA AGGCAAGGAT TCTGGATGGT      540

TTTTAGATTT GGGGTGAATA ATTGGGGTTT TACAATATCA ACTCCCATGA TAGTCATGAG      600

ATGACTCTTC ACGAATTGAC GTGATGACTG TCCTTCCTTT TGCATAATTA CCTCCGAAAC      660

ACAAAAAAAG GGGTAGACAA TCTAGTGTCT ACCCCCGAAA GTTTATTAAA ACAAAAATCC      720

TGCCAAAGAA TTTTTGGCAG GAAACCAAAT CAATTTATCA GTTTCTATCA ATCGCTTATC      780

GCTCTCAAAG ACTGGTAAAT AGGGATTCCG CAATCAAATT GCGATACTCT ATTATTTAAG      840

AGTAACTGAA GCTCCAGCTT CTTCCAATTT AGCTTTGATT TCTTCAGCTT CTGCAGTTGC      900

AACGCCTTCT TTAACAAGTG CTGGTGCACC GTCAACAAGT TCTTTAGCTT CTTTAAGACC      960

AAGACCAGTG ATTTCACGTA CAACTTTGAT AACGCCAACT TTTTTGTCGC CTGCAGATGT     1020

CAATTCAACG TCGAATGAAT CTTTAGCAGC ACCAGCATCA GCTGCATCAG CTGCAGCAAC     1080
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1318

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AGCTACAGGA GCAGCTGCAG TTACACCAAA TTCTTCTTCG ATAGCTTTTA CAAGGTCGTT    1140

CAATTCAAGG ATTGAAGCTT CTTTAATTTC AGCAATAATG TTTTCAATGT TCAATGCCAT    1200

TGTTATTTCC TCCAAATAAG TTTTAAATTT TATAATAGTT TTTTTCGTAG CTAGksTACG    1260

CTGTGTAGCT TAAGATTAAG CCGCGTCTTC TTTGCTTTCT GCAACCGCTT TGACTGCAAG    1320

AGCAACGTTG CGCACTGGCG CTTGAAGTAC AGAAAGGAGC ATAGAAAGAA GTCCTTCGCG    1380

GTTTGGAAGA GTTGCAAGTG CAAGAATCTC TTCTTTAGAT GCGACAGCGC CTTCGATTGC    1440

ACCACCTTTA ATTTCAAGTG CTTCAGCGTT TTTAGAAAAG TCGTTCAAGA TTTTCGCTGG·   1500

TGCGATAACA TCTTCATTAG AAAATGCTAC TGCAGATGGT CCAACAAATA CAGATGCAAG    1560

ATCTTCAAGA CCAGCTTTTT CAGCTGCACG ACGCAAGATT GAGTTTTTAA TAACTTTATA    1620

CTCAACTTCG CTTCCACGAA GCTCACGACG AAGAACTGTA TCTTGCTCAA CTGTCAAACC    1680

ACGAGCGTCT ACAACGACGA TAGATGCAGC AGCTTTCATT TTTTCAGCTA tACGTCAACT    1740

AGTTCCGCTT TTTTAGCAAT AATTGCTTCA CTCATTAGTG TGTTCACCTC CGTAATTATT    1800

TTGCTTGGGG AATTTTTCAA AAAGAAAAAC GCGCCCAATC CTAGACACGA AAGTACAATA    1860

CGCTTCTTTT TACATGATAC GTTTTGTCCT CGGTAGGATA TTTATGAGTC GAGCTCCCCT    1920

ACTGTCTTAG GCAGTTTTTT TAGATACGG                                     1949
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(2) INFORMATION FOR SEQ ID NO: 290:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1023 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 290:

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GGACTGTTTG ATCTTATACA GTAGCTGCTT GATCCAAGCT TTCACCGATA GCGGCTAGGC     60

GCTCGATAAC TTCAGCTTGT GTCAATTCAT TTTTTGAAAC ATAGCGGTTA CGTGGGTGAA    120

CACGGCACTC GTGTGAGCAT CCACGAAGGT ACTTGTCTTC ATTTTCTTCT GATGTCAAGA    180

TACGACGGTT ACAGAATGGA TTTCCACAGT TGACATAACG TTCACATGGT GTTCCATCAA    240

ACCAGTCTTT CCCTACGATA GTTGGGTTGA CATGGTTGAC ATCAACGGCA ATACGCTCGT    300

CAAAGACGTA CATTTTCCCA TCCCAAAGCT CACCTTGAAC TTCTGGGTCT TTACCGTAAG    360

TTGCGATTCC TCCGTGCAAT TGGCCGACAT CTTTGTAGCC TTCACGGACC ATCCAGCCTG    420

AGAATTTCTC ACAGCGAACG CCACCTGTAC AGTAAACCAC GACACGCTTG TCCATGAATT    480

TTTCCTTGTT ATCACGGACC CATTGTGGTA ACTCACGGAA GTTGCGAATA TCTGGGCGAA    540
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1319

TAGCTCCACG	GAAATGTCCT	AGGTCGTACT	CATAATCGTT	ACGTGTGTCA	AGGACAACGG	600
TATCTTTATC	AAGAAGCGCT	TCTTTGAACT	CTTTTGGAGA	CAAGTAAGCA	CCTGTTGTTT	660
CAAGTGGGTT	GATGTCATTG	TCAAAGTCGT	TGTCTTCCAA	ACCAAGGTGG	ACAATTTCTT	720
TCTTGTAGCG	AACAAACATC	TTCTTGAAGG	CTTGTTCATT	TTCTTCGTCA	ATCTTGAACC	780
AGAGTTCTTC	CATTCCTGGA	AGGCTGTGAA	CGTAgTCCAT	GTATTTTTGA	GTTGTTTCAT	840
AGTCACCTGA	AACTGTTCCG	TTAATTCCCT	CGTCAGCGAC	TAGGATACGG	CCTTTAAGGn	900
CGATTGATTT	ACAGAAAGCC	AAGTGGTCTG	CAGCAAATTG	CTCTGCATTT	TCAATTGGAG	960
TATAAAGGTA	GTAAAGTAAG	ACACGAATAT	CTTTTGkCaw	AAGATTTGTA	TCTCTTTATC	1020
TAT						1023

(2) INFORMATION FOR SEQ ID NO: 291:

     (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 3831 base pairs
         (B) TYPE: nucleic acid
         (C) STRANDEDNESS: double
         (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 291:

ACTATGAACA	AGACCCAGAA	AAAGTAGCCT	TATTTCTTAA	GAATTTTAAT	AGTTTAAAGC	60
ACCTAGCACC	TGTTTAGATT	GACGAAACAG	GATTCGATAC	TTATTTTTAT	CGAGAATATG	120
GTCGCTCATT	AAAAGGTCAA	TTAATAAGAG	GCAAAGTATC	TGGAAGAAGA	TATCAGAGGA	180
TTTCTTTGGT	TGCAGGTCTA	ACAAATGGTG	AATTAATCGC	TCCAATGACT	TACGAAGAGA	240
CGATGACGAG	CGACTTTTTT	GAAGCTTGGT	TTCAGAATTT	TCTCTTACCA	ACATTAAACA	300
CACCATCGGT	TATTATTATG	GATAATGTAA	GATTCCATAG	AATGGGGAAG	CTAGAACTTT	360
TATGCGAAGA	GTTTGGGCAT	AAACTTTTAC	CTCTTCCTCC	CTACTCGCCT	GAGTACAATC	420
CTATTGAGAA	AACATGGGCT	CATATCAAAA	AGCACCTCAA	AAAGGTATTA	CCAAGTTGCA	480
ATACCTTTTA	CGAGGCTTTT	TTATCCTGCT	CTTGTTTCAA	TTGACTATAT	TAGAGGCGAG	540
ACATTTTTCG	GTTCTTTGTC	AACTGTAGTG	GGTTGAAGAA	AGCGAAGATC	TAGAAAGGAC	600
AAATTTCGTC	CTTTCTTTTT	TGAAGTTTTC	AAAGTTCCTA	AAACCAAAGG	CATTGTGCTT	660
GATAAGTTTG	ATGAGATTAT	TGGTGGCTTC	CAGTTTGGCG	TTGGAATAAG	GTAATTGAAG	720
GGCGTTGACG	ATTTTCTCTT	TATCTTTGAG	GAAGGTTTTA	AACAAAGTCT	GAAACAGAGG	780
TGGAAAAGCA	AGAGCTGATA	GAGATTATAG	TGGTGTTTAA	AGTCTTCGGA	ATAGCTCAAA	840

1320

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AGTTTATCTA GAATTTCTTT ATTAGTCAAG TGCATACGAA AAGTAGGGCG ATAAAATCGT    900

TTATCACTCA GTTTCTGACT ATCTTGTTGA ATGAGCTTCC AGTAGCGCTT GATAGCCTTG    960

TATTCATGGG ATTTCGGATG ATGGCTTGTG TTCTGCTCTC AAGAACAGTT ATGATATTGA   1020

GTTTATCAAA GTCCTGAGCA ATAAAGCTCA TCTCCATCTC CCGATTGAAA CAGTCACTCC   1080

CCGGACTGTT TCAACsTCCT AGGACATAAT CTCAGGAAGA CGCGAAAAAT CATGCTCAAA   1140

GTGAAAATCA TTGTTCTTGC GAATGACAGT TGAAGTTGAA ATAGACAACT GATGATCAAT   1200

GTCGGTCATA GAAGTCTTTT TAATTAGCTT CTGAGCAATC TTTTGGTTGA TGATACAAGG   1260

AATTTGATGA TTCTTCTTGA CGATAGAAGT CTCAGCGAGC TCCATTTTTG AGCAATGATA   1320

GCACTTAAAA CGGCCTTTTC TAAGAAGAAT TCTAGTTTGA ATTTTTTTAT ACTAGAAAAT   1380

CAGAACCATA ATACCTATAT AAAAATATTA TAGTTCTAAT AGGATTTACC CAAAAGTTTT   1440

AAGGCGGTCT TTTTAGAACT TTAATTGTTT GAAATTTAGG TAGCAAATTT GTTTCTATTT   1500

TGTCAACTTT TCCTATTTTT ATCTTGTTGA GGCTGGTATT TTAACAATTC AGGAATTGAT   1560

AGTGAATGTG TAAAATTTTT TGTTAGAATA AGTTTATAAA AAAGAAAAGG AGTATTTGAT   1620

TATGTTACAA AAAATTTATG AGCAGATGGC TAATTTCTAT GATAGTATTG AAGAAGAGTA   1680

TGGTCCTACA TTTGGTGATA ATTTTGACTG GGAACATGTT CATTTTAAAT TTTTAATTTA   1740

TTATTTAGTG AGATATGGCA TTGGTTGTCG TAAGGATTTT ATTGTTTACC ATTATCGTGT   1800

TGCTTATCGT TTGTATCTTG AAAAATTGGT AATGAATCGG GGTTTTATTT CTTGTTGAGG   1860

TAATTTTAGT AAATTTCCGA ACTAATTTAC TCTTTTATGG AAAGATGATA GTAAATAGCT   1920

AGTAATTTTT CTAAATCATT TTTTAATAGT TGGAAATAGC AAATCTTTCT ATTGTTTCTT   1980

CTTGATAAAA AGGCGATTTT TTATTATAAT AAATTGTAAG ATATAATTGC AGGTGAGAGT   2040

CCTGCCATGT ATGTGAGAAA GGAAGAGCCT GATGGCTCAG ACAAGATTAT GACTTCAGTT   2100

GTTGTTGTAG GTACCCAATG GGGTGATGAA GGTAAAGGGA AGATTACAGA CTTCCTTTCA   2160

GCGAATGCAG AAGTGATTGC ACGTTACCAA GGTGGTGATA ATGCTGGTCA CACGATTGTG   2220

ATTGACGGTA AGAAATTTAA GTTGCACTTG ATTCCATCTG GGATTTTCTT CCCTGAAAAA   2280

ATATCTGTCA TTGGGAATGG TATGGTTGTA AATCCTAAAT CTCTTGTAAA AGAGTTGAGC   2340

TATCTTCATG AGGAAGGTGT AACAACTGAT AACTTGCGTA TTTCTGATCG TGCGCATGTT   2400

ATTTTGCCTT ATCATATCGA GTTGGATCGC TTGCAAGAAG AAGCTAAGGG CGACAATAAG   2460

ATTGGTACGA CAATTAAGGG AATTGGTCCA GCTTATATGG ACAAGGCTGC TCGTGTTGGA   2520

ATTCGTATTG CAGATCTTTT AGATAAAGAT ATTTTCCGTG AGCGTTTAGA ACGTAACCTT   2580

GCTGAAAAGA ATCGTCTTTT TGAAAAATTG TATGACAGTA AAGCGATTGT TTTCGATGAT   2640
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1321

ATTTTTGAAG	AATATTACGA	ATATGGTCAA	CAAATCAAGA	AATACGTGAT	AGATACATCT	2700
GTTATCTTGA	ATGATGCGCT	TGATAATGGC	AAACGTGTGC	TTTTTGAAGG	TGCACAAGGT	2760
GTTATGCTAG	ATATCGACCA	AGGTACTTAT	CCATTTGTTA	CGTCATCAAA	CCCTGTAGCT	2820
GGTGGTGTGA	CAATTGGTTC	TGGTGTCGGT	CCAAGCAAGA	TTGACAAGGT	TGTAGGTGTA	2880
TGTAAAGCTT	ATACGAGTCG	TGTAGGAGAT	GGTCCTTTCC	CAACTGAGTT	GTTTGATGAA	2940
GTGGGAGAAC	GTATCCGTGA	AGTGGGTCAT	GAATATGGTA	CAACAACTGG	TCGTCCACGT	3000
CGTGTAGGTT	GGTTTGACTC	AGTTGTGATG	CGTCATAGCC	GTCGTGTTTC	TGGTATTACT	3060
AACCTTTCTT	TGAACTCTAT	TGATGTTTTG	AGCGGTTTGG	ATACTGTGAA	AATCTGTGTG	3120
GCCTATGATC	TTGACGGTCA	ACGTATTGAC	TACTATCCAG	CTAGTCTTGA	ACAATTGAAA	3180
CGTTGCAAGC	CTATCTATGA	AGAGTTGCCA	GGTTGGTCAG	AAGATATTAC	CGGAGTTCGC	3240
AATTTGGAAG	ATCTTCCTGA	GAATGCGCGT	AACTATGTTC	GTCGTGTGAG	TGAATTGGTT	3300
GGCGTTCGTA	TTTCTACTTT	CTCAGTAGGT	CCTGGTCGTG	AACAAACAAA	TATTTTAGAA	3360
AGTGTTTGGT	CCTAAGAGAT	TTTTAAGATT	TGTTTAAGAT	AGGTCGGGTA	TACTATAGAC	3420
GGTTACAAGA	AGACCTCCTA	ACTTGTTGTA	ACAAATATCC	TAAACTTTTC	TTTTTCATAA	3480
TAATCTCCCT	ATAGAGTCAC	CGCATTCGGT	GGCTTTTTTT	GTGTTGGGAT	TCATGATATA	3540
ATAATAAAAT	CGATAAGTAG	GAAAAGAGAA	AAGAGATGTA	TTATACGCTT	GAAGAAAAAG	3600
AAGTCTTTAT	GAGGGAGGCT	TTGAGAGAGG	CTGAGATTGC	TCTTGAACAC	GATGAAATTC	3660
CAATTGGTTG	TGTGATTGTC	AAAGATGGGG	AAATCATTGG	TCGTGGGCAT	AATGCGCGTG	3720
AGGAATTACA	GCGAGCGGTT	ATGCATGCGG	AAATTATGGC	TATAGAGGAT	GCGAACTTGA	3780
GTGAGGAGAG	TGCGCTTGCT	GGATTGCACA	CTTTTTGTGA	CCATTGAACC	G	3831

(2) INFORMATION FOR SEQ ID NO: 292:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1441 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 292:

CCGCTGTTCC	AACCGCAACA	TACCATAGTC	CGTACGGGAT	TCGAACCCGT	GTTACCGCCG	60
TGAAAGGCG	GATGACTTAA	CCCCTTGACC	AACGGACCTG	AGTTGTTATT	TTCAACTCTT	120
ACTATTATAC	AGTCTTTTCA	AACTTTGTCA	ACTACTTTTT	CTAATTTTTG	TTTATTTTTT	180

1322

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CAACTTATAG TAAAAAAAGC CAGAATTATA CTGACTCTTC TATCGCTCAT TAAACTTAGA       240

AGCACGTTCT TTTCCCCACC AATAAGGGAT TAGTTCTGCG ACTTTAACTG TTTTTCTTAT       300

ATTATAGTCC ATCATGAATT CTGCATCTTT ATTTTCAGCA TTAAGCTCTA AAAGGAATTC       360

TCTACAAGCA CCGCAAGGCA TGGCTGAACT TCCACCATAA GGTGGTTTGT CTCGAAAGGC       420

TAATACTTTC TTAACCTTAG TTTGTCCTGA AAATTGGTAC ATATTGAAGA GGGCCGCCCG       480

TTCTGCGCAG AGATGGAAAA CACCACAGGT TCCCTCCATA CAGAATCCTG TAAATATTTG       540

TCCATCTCCT GCTTCTACTG CAGCTACAAC ATGATTGGCA TAAACAAAGT CTGATACTTC       600

ATGTGGATTG TATAGTTTCT GTGCTTCTTC GTACATCTTT TCCCAGATGT CCATTATTGT       660

ATCCTCTTTA TTTAGAGATT TCTTTTAGCA TGTTTTCGAT ATGCTGAATT GATTTTTCAC       720

GTCCAAGCAA GAAAATTGTA TCTGGTAATT CTGGCCCATG CATTTCGCCT GAAACTGCGA       780

TACGAATAGG CATGAAAAGA TTTTTCCCTT TAATACCTGT TTCTTTTTGG ACTGCTTTAA       840

TTTGTGGGAA GATATTTTCT GTCACAAATT CATCATCTGT CATCGCTTCA AGTTTTGCTT       900

TGAATGCTTC AAGAACTGTT GGAACTGTTT CACCCGTCAT GACTTCGCGC TCTGCTTCTG       960

TCAATTCTGG GAAATCTGAG AAGAAAAGAT CTGTCAATGG GATAATCTCA TCTACTGATT      1020

TCATTTGTGG TTTATAGAGC TCAACTAATT TTTCAGCCTT GTCAGTCAAA CGGCCTGCTT      1080

CCTCTAAGAA TGGTTTTGCC ATTTCAAAGA TGGTTTCAAG GTCTGCATTC TTGATATAAT      1140

CATTGCTCAT CCAGTCTAGT TTTTTCTGAT CAAAGGCTGC TGGTGACTTG CTGAGGCGGT      1200

TTTCATCAAA AAGTTTAATG AATTCTTCAC GAGAGAAAAT CTCATCCCCA CCACCTGGGT      1260

TCCAACCAAG AAGAGCAATA AAGTTAAAGA CTGCTTCTGG AAGGTAACCT TTCTTTCGGT      1320

AATCTTCGAT AAATTGAAGT GTATTAGTAT CACGTTTAGA TAACTTCTTA CCAGTTTCAG      1380

AGTTGATAAT CAAGTGTCAT GTGACCGAAC TCTGGAGCTT CCTCAACCTA AGAGCGGGTA      1440

T                                                                     1441
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(2) INFORMATION FOR SEQ ID NO: 293:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4398 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 293:

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CGGCTTATGT AGTGGCAATC TTTCTACGTA AGCGAAACGA GGGGAGATTA GAGGCGCTAG        60

AAGAAAAAAA AGAAGAACTA TACAATCTTC CAGTAAATGA TGAAGTAGAA GCTGTAAAAA       120
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1323

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ATATGCACTT GATTGGACAA AGTCAAGTGG CTTTCCGTGA ATGGAATCAA AAATGGGTCG      180

ATTTATCTCT CAACTCTTTT GCCGATATTG AAAATAATCT CTTTGAAGCA GAAGGCTATA      240

ACCATTCATT TCGTTTTCTC AAGGCCAGTC ATCAAATTGA CCAAATTGAG AGTCAAATTA      300

CTTTGATTGA AGAAGATATT GCGGCAATTC GCAATGCTTT GGCAGACTTA GAGAAGCAAG      360

AATCTAAAAA TAGTGGTCGT GTTCTTCATG CTTTGGATTT ATTTGAGGAA CTTCAGCATA      420

GAGTTGCTGA AAATTCAGAA CAGTATGGTC AAGCCTTGGA TGAAATTGAA AAACAATTAG      480

AAAATATCCA ATCTGAATTT TCACAATTTG TAACCTTGAA TTCATCGGGT GACCCTGTGG      540

AAGCCGCAGT GATTTTGGAT AATACAGAAA ATCACATTTT GGCCTTAAGT CATATTGTGG      600

ATCGTGTTCC AGCCTTGGTT ACGACGCTTT CTACAGAATT GCCAGATCAA TTACAGGATT      660

TGGAAGCCGG TTATCGTAAA CTAATTGATG CTAATTATCA TTTTGTTGAA ACGGATATTG      720

AAGCGCGTTT CCACTTGCTT TATGAAGCAT TCAAGAAAAA CCAAGAGAAT ATTCGTCAGT      780

TGGAATTGGA TAATGCCGAA TATGAGAATG GACAGGCACA AGAGGAAATC AATGCCTTGT      840

ATGATATTTT TACTCGAGAA ATTGCTGCTC AGAAAGTAGT GGAAAATCTA CTTGCAACTC      900

TTCCAACTTA TCTTCAACAT ATGAAAGAGA ATAATACTTT ATTGGGAGAA GATATTGCAC      960

GTTTGAACAA GACCTATTTA CTTCCTGAGA CAGCTGCAAG CCATGTTCGT CGTATTCAGA     1020

CAGAATTAGA GAGTTTTGAG GCAGCTATTG TTGAGGTAAC TTCAAATCAA GAAGAACCAA     1080

CCCAAGCTTA TTCAGTTCTT GAAGAAAATC TTGAGGATTT ACAAACTCAA CTAAAAGATA     1140

TTGAAGATGA GCAAATTTCA GTTAGTGAGC GCCTGACACA AATTGAGAAA GATGATATTA     1200

ATGCACGTCA AAAGGCCAAT GTTTATGTCA ATCGTCTCCA TACTATCAAG CGATACATGG     1260

AAAAACGCAA TCTGCCAGGT ATTCCACAAA CTTTCTTGAA GTTATTCTTT ACGGCAAGCA     1320

ATAATACCGA GGATTTAATG GTTGAGTTAG AACAAAAAAT GATTAACATT GAATCTGTTA     1380

CCCGAGTTCT TGAAATTGCA ACGAATGATA TGGAAGCTTT AGAAACGGAA ACTTATAATA     1440

TTGTACAATA TGCAACTTTG ACAGAGCAAC TCTTGCAATA TTCTAACCGC TATCGCTCAT     1500

TTGATGAACG CATTCAAGAA GCATTTAACG AaGCTTTAGA TATTTTTGAA AAAGAATTTG     1560

ATTATCACGC TTCATTTGAC AAGATTTCTC AAGCATTGGA AGTGGCAGAG CCTGGTGTAA     1620

CCAATCGCTT TGTTACCTCA TATGAGAAAA CACGTGAAAC GATTCGTTTT TAATAAAAGA     1680

AAAAGATTTT ATTGTGTGAG GAGCAGAATC AAATCTTTTT CTATAGTTGT GGGGAGATTT     1740

ACTTCATTTT CTCCTGAGAT TGAGTTTTTG CCCAGCCGAT TTATCCACTA CCTCAAAACA     1800

GTGTTTTATA CTCTTCGAAA ATCTTTTCAA ATCACGTCAG CGTCGCCTTA CCGTACTCAA     1860
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1324

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GTACAGCCTG AGGCTAGCTT CTTAGTTTGC TTTTTGATTT TCATTTAGTA TTAAAGTGAT     1920

TTCGCCAGTC TTATCTGCAG CTTCAAATCT GTACTTTGAG TAACTTGGTA ACCGTCCAAT     1980

AACGAAGTCT ATTGAAAAAT CTCCAGACTA GAGAACTCAC GGATAGTTCC TAATCTGGAG     2040

ATTTCTTATT TGCACTTTTC TTGTACAACT TTAGTCCACG GTAAATAGAC CTCTAAAACC     2100

TCTTTGTTTA CGAGAGTTTC CTCGTTTGGA AGACATTCTA GAAGATAGGA TAGATATTTC     2160

TCGCTATTTA TACTAGACTA AAATCAAAAA GCATTATATA ATAGTGATAT GAAATCAACT     2220

AAAGAAGAAA TCCAAACCAT CAAAACACTT TTAAAAGACT CTCGTACAGC TAAATATCAT     2280

AAACGCCTTC AAATCGTTCT ATAGTAAAAT GAAATAAGAA CAGTACAAAT CGATCAGGAC     2340

AGTCAAATTG ATTTCTAACA ATGTTTTAGA AGTAGAGGTG TACTATTCTA GTTTCAATCT     2400

ATTATATTTC GTCTGATGGG CAAATCTTAT AAAGAGATTA TAGAACTTTT ATAGTAGATT     2460

GAAATAAGAT GTGAACAACT CTATCAGGAA AGTCAAATTA ATTTATAGAA ATATTTTAGC     2520

AGCCAAGGTG TACTGTTATA GATTCAATAC ACTATAGACT GTAATCAAAC AACGATTTGG     2580

CGAAATGTAA AAAAATATGA GGAGTTCGGA CTCGACTCTC TCCTTCAAGA AACACGTGGT     2640

GGTCGTAACC ATGCATATAT GACAGTTGAG GAAAAGAAAG TCTTTCTTGC CCGCCATTTG     2700

AAGGCTGCAG AGGCAGGAGA ATTTGTTACA ATTGATGCCT TATTTCAGGC TTATAAAAAG     2760

GAGTTAGGTC GTTCCTACAC ACGTGATGCC TTCTATCAAC TGTTGAAGTG CCATGGTTGG     2820

CGAAATATTA TGCCACGTCC AGAACATCCT AAGAAAGCAG ACGCTCAAAC CATTGTCGCG     2880

TCTAAAAATA AAATCTCAAT TCAAGAAGAA AAGAAAGCGC TTTAAAACCA GTAGACGTTT     2940

TCGTAAGGTT CGCTTGATGT ACCAAGATGA GGCTGGTTTC GGTAGAATCA GTAAACTGGG     3000

ATCTTGTTGG GCTCCAATAG GAGTAGGTCC ACATATCCAT AGTCACTATA TACGAGAATT     3060

TCGCTATTGT TATGGAGCTG TTGATGCCCA TACAGGCGAA TCATTTTTCT TAATAGCTGG     3120

TAGATGTAAT ACTGAGTGGA TGAACGCCTT TTTAGAAGAG CTTTCACAAG CTTATCCAGA     3180

TGATTATCTT TTACTCGTTA TGGACAATGC TATATGGCAT AAATCAAGTA CCTTAAAGAT     3240

TCCGACTAAT ATTGGTTTTA CCTTTATTCC TCCATACACA CCAGAGATGA ACCCCATTGA     3300

ACAAGTGTGG AAAGAGATTC GTAAACGTGG ATTTAAGAAT AAAGCCTTTC AAACTTTGGA     3360

AGATGTCATG AATCAACTCC AAGATGTTAT ACAAGGATTG GAGAAGGAGG TGATAAAGTC     3420

CATCGTTAAT CGGAGATGGA CTAGAATGCT TTTTGAAAAC AGATGAGTAT AAAAAGAAAG     3480

TCCTCATTTC AATAGAAATC ACGACTTTCT GATGGATTTA TAGTAAAATG AAATAAGAAC     3540

AGGACAAATC GATCAGGACA GTCAAATCGA TTTCTAACAA TGTTTTAGAA GCAGAGGTGT     3600

ACTATTCTAG TTTCAATCTA CTATATTTTT GGAGTGATAG AAAAGCCCTT CATAAGCTAG     3660
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1325

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TCTACTTGTT CAGGTGCGAG AGCTTTGACA TCTTTTTCTG TACTTAGCCA AGTCAGTTTT       3720

CCGTTCTCAA AGCGTTTATA TAGTAGCCAA AATCCTTGAC CATCCCAGTA AAGGGCTTTA       3780

AAGCGGTCTT TACGTCCACC ACAAAAGAGA AAGACTTGAC CGGAGAAAGA ATCCAATTCA       3840

AAGTGGGTTT TAACTACATA GGCTAATGAG TCTATTCCCT GCCTCATATC TGTCTTGCCA       3900

CAAACAAGGT GAACTTGACC TAAATCACTT AGTTGAATTA TCATAGTACA ATACCTTTCC       3960

TCCGATAATT ATTTTTTATC TAGTATACTG GAAGTTGGGG AATTAGGATA GATACCTTGT       4020

TATGACGCGC TTACGTAACT TGTAACTAGC TGCCTAGTTT GATCTTTGCT TCTTCATTGA       4080

TTAGCAGTAG ATTTCAAAAT GATAAAAACG CATAGTATCA GGTATTGAAA TGTACTGCCC       4140

CAAAAGTTAG ACAGAAAAAA TCTAACTTTT GGGGTGTTTT TGTTATGAAA TTAAGTTATG       4200

ATGATAAAGT TCAGATCTAT GAACTTAGAA AACAAGGATA TAGCTTAGAG AAGCTTTCAA       4260

ATAAATTTGG GATAAATAAT TCTAATCTTA GGTATATGAT TAAATTGATT GATCGTTACG       4320

GAATAGAGTT CGTCAAAAAA GGAAAAAATC GTTACTATTT TCCTGATTTA AAACAAGAAA       4380

TGATTAATAA AGTCTTAC                                                     4398
```

(2) INFORMATION FOR SEQ ID NO: 294:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 718 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 294:

```
AGATTTTTAG ACTTTGTCTT TAATCGTTTC TTTTTAGGGA TGATTGCGAC ACCTTCTTTT         60

GGCTATTAAC TTTAGCAGGA GGGATTATCC TTGGTCTAGC GCCGGCTAGT GCCACCTTGA        120

TGAGCTTATA TGCAGAACAT GGTTATAGCT TTCGGGAATA CAGTTTGAAG GAGGCTTGGT        180

CTCTTTACAA GCAAAATTTT GTCTCAAGCA ACCTGATTTT CTATAGCTTT TTAGGTGTGG        240

GTCTAGTTTT GACCTATGGT TTGTATCTCT TGGTGCAATT GCCTCATCAG ACCATTGTTC        300

ATTTGATTGC GACCCTTTTG AATGTCCTAG TAGTTGCCCT GATCTTTTTG GCTTATACAG        360

TATCTTTAAA ATTACAAGTT TATTTTGCCT TGTCCTATCG AAATAGTCTC AAATTATCCT        420

TGATTGGCAT CTTTATGAGT CTAGCAGCTG TGGCTAAGGT TCTCCTTGGG ACTGTGCTAC        480

TTGTAGCAAT TGGTTATTAT ATGCCTGCCC TGCTATTTTT TGTAGGAATT GGGATGTGGC        540

ATTTCTTTAT CAGTGATATG TTGGAACCTG TCTATGAAAT CATCCATGAA AAATTGGCGT        600
```

1326

CAAAATAGAA TGAAGCAGTT TTGGCTACAT ACGCTTCTAA GAACCTATAG TTCAGTGATG   660

ATCATTATCA TTGCGAGTTT TGCAATCTTA CTCTCTTACG CTGTCTGGGA TTCACGTG   718

(2) INFORMATION FOR SEQ ID NO: 295:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 718 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 295:

TCGGTACCAA AATTCTGGAT TTATACTAGC AAAGATCCAA GAGCAAATTA TTTAACAGAT   60

TTAGGTCTAG TTTTCCCTGA ATCATTAAAA GAATTTGAGA GTGAAGATAG TTTTGCAAAG   120

GAAATTTCTG CAGAAGAAGC AAATAAGATA AATGATGCTG ATGTAATCAT AACTTATGGT   180

GATGATAAAA CTCTTGAAGC TTTACAAAAA GATCCTCTTT TAGGTAAAAT AAATGCAATT   240

AAAAATGGTG CCGTTGCTGT AATTCCAGAT AATACACCGT TAGCAGCCTC ATGCACTCCA   300

ACACCACTTT CAATAAACTA TACTATTGAA GAATACCTAA ATCTTTTAGG AAATGCATGC   360

AAAAATGCGA AATAAAAAAC AAATAAACCT AGGCATAATT TTTATAATCT GCCTAGGTCT   420

TCTTATTACA ATATTTTTGT CATTAAAGCT TGGAACAAAA GAAATTAATA TCAGAGATTT   480

TTTAGCAGCT TTTGGAATGG GTAATACAAA TGATGATTTT ATTAAATCAA TTATATATAA   540

rAGAATACCT AGAACTATTT TTGCAATTTT AGCAGGTTCT AGTCTTGCCA TAAGCGGTGT   600

ATTGATGCAA TCAGTTACTA GAAACCCAAT AGCTGATCCA GGTATACTCG GTATAAACAC   660

AGGAGCAAGT CTTAGTGTAG TAATTGGTCC TTCtTTTTAG GGAATTCATC AAGCATAA   718

(2) INFORMATION FOR SEQ ID NO: 296:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1436 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 296:

GAACTAATCA TTTTTACAGG ATGAGATTTA CAGCAGAGAG TTTGAAGGCT TTATCAAAGG   60

TTTTTCTTGG CATAATGACT TTTCCTCGTT TCCACTTAAT TTTGTGTCTA CTTTATTATA   120

CCAAGTCCAC sCTTAAGTTA GATAATAAAT CTAACTTAAG GAAGCTAGAA GGATGAGAAT   180

CCAGGTGGTC AAGAGTCCCA AACTTAAGCT GATGGGGACA CCCAGAATAA TTTGCTTTTT   240

1327

GAAGGCAAGG CCACGTTCCT CTATATTGGG AAGTGAGAGT TGAATGAGAG AACCAGCTGA   300

TGAAAAGGGT GAGATATTAG TAGATAGAGC GCCAATAACG GTGGCTGTTG TGAGTAAGTG   360

AATATCAATC TGAGGATTTT GAGCACTGAT GATAGCAATG ATGGGAAAGA GGGCTGGAGC   420

TACAACGGAT AGGGTGGAAC TAAAGAGTGA CATCACTCCG GCTATCACAC AAAAGAACAG   480

AGGTAACCAG AAATGAGGAA TGGTTGTTGT CATGAGGTGC CCTATCAGTG TGACTAAACC   540

TGACTTGACC GCTAGAGACA TTAGTAAGCT CATGCCGCAG AGCATGATAA TTGTAGCCCA   600

GGGAACCTTA GCTAAAATGG CTTCTTGCTT CCCTAATTTG AGCCTTAAGG CGAGGCAGAC   660

CATGAGTATT GAGACAAAGC CAATATCAAA TGTTTTTTGA TAAGTAGCTA TCCAGGCGAT   720

GTTTGGGAAA ATGAGATGCA ACAAGGGAAA AAGCCAAACC AAAACCATGC TGCTGATCAT   780

GAGCAAGGTG GTTTGTCTTT GAACCTTGCT GAGGAGTGGT GGTTGGTCAA TAGTCAAGGA   840

TGAGTTTGTT CTTCCCTTAC TATAGTGACT GTAACAGGAT AATAAAAGCA AGACGATGAG   900

TGGGTAGATA ATGCTGACGA TAAAGATATG ATTGCCAAGT GAAAAAGCTT GCTCTTCCCA   960

TCCCATTTGC TTAAACAGGC CTTGAAAGAC AATGCCTGAG CTACTGGTTA TCAAATTAGC   1020

CCCTCCTGAA GCTCCCCAAT TGACGGCTTG AGCTCCAATC AAAGGGTGTT TGTCCGCTTT   1080

TTGACAGAGG GTAATCGCTA GAGGACAGCA AACGGCCATA GTAGTGAAAA ATCCAGCACC   1140

TAAAGCAGAC AAAAGGGTTG CCATCAGGTA TAAAATCATG TAGAGGGCGT TAGGGTGGGT   1200

GCGTGTGCGG TAGAGAATGT GTTGAGCCAA AACATCAAGA GTACCGTTAG TTGTTGCAAC   1260

GTTATAAAAG AGAGAGACGC TAAAAATGGT AAAAAAGAGT GAGGTTGGCC AAAAATGAAG   1320

AAGTTCTTTG GGGCTTAATC CCATGAGAGT GGTTGCGATG AGGTAAGAAA AAGCAATAGC   1380

CAGCAGGCCA ATATTGATTT TGGTGCGGTA ACCAATTCCA ATGGCTAGAG CAATGG   1436

(2) INFORMATION FOR SEQ ID NO: 297:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1696 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 297:

CCATTTGGGA AAGAACGTAA GAGTTTGCAG GGTGAGATTC CAGAAGAATT TTCAATGTCA   60

GCCGTTGACA TGTCTATGAT TGACCACATT CCAGATATGA TTGAAAATGG TGTGGACAGT   120

CTAAAAATCG AAGGACGTAT GAAGTCTATT CACTACGTAT CAACAGTAAC CAACTGCTAC   180

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                                  1328
AAGGCGGCTG TGGATGCCTA TCTTGAAAGT CCTGAAAAGT TTGAAGCTAT CAAACAAGAC          240

TTGGTGGACG AGATGTGGAA GGTTGCCCAA CGTGAACTGG CTACAGGATT TTACTATGGT          300

ACACCATCTG AAAATGAGCA GTTGTTTGGT GCTCGCCGTA AAATTCCTGA GTACAAGTTT          360

GTCGCTGAAG TGGTTTCTTA TGATGATGCG GCACAAACAG CAACAATTCG TCAACGAAAT          420

GTCATTAACG AAGGGGACCA AGTTGAGTTT TATGGTCCAG GTTTCCGTCA TTTTGAAACC          480

TATATTGAAG ATTTGCATGA TGCCAAAGGC AATAAAATCG ACCGCGCTCC AAATCCAATG          540

GAACTATTGA CTATTAAGGT GCCTCAACCC GTTCAATCAG GAGATATGGT TCGTGCATTA          600

AAAGAAGGAC TCATCAATCT TTATAAGGAA GATGGAACCA GCGTCACAGT TCGAGCTTAA          660

GAAAGGAAAA GGAAATGATA GAGGCACAGG GTTTCTTAGT GGATAAGCAA ACAAGATGCA          720

TTCATTACCA TAGCAAGCTG GATATTATTG CTTTACAATG CTATGATTGT AAAAAGTATT          780

ATGCTTGTTA TCGGTGTCAT GATTCATTAG AACATCACCC TTTTGAGCCG TATCCCTTAT          840

CTTTGATACA GGATAAGCCT ATTTTATGTG GTGTTTGTCT AAAACTACTA ACATATAAGC          900

AATATAAAGA AAGCTTAAGT TGCCCCTTTT GTTTTTCTCG CTTTAATCCA GGTTGCCAAA          960

ATCATAAGGA ACGCTATTTT AAATAGCAAA TCATCTAGTT TTGAAGTAGG AGAAAACTCA         1020

ATTTCAAGAG AAAATGAAGT AAATCTTCCC ACAATAAAAC GCATAATATC AAGATTGTTC         1080

AATACCTGAT ACTATGCGTT TTTAAGATTT TAAAGACTTT TTTCCTTTAT CTGGTATTTT         1140

GACTACTTGT TAAAACTGGG TTAATTTTCG ACTGTTTAAT AGTTATTATG CAAAGTCTAA         1200

AAGGTTAGAA TTGTCAAAAC AATCCGTCTA GAGTATGCGT GATGCCAACC GTGGTGGATG         1260

TTCTCAGTCA TGCCGTTGGA AGTACGACCT TTACGATATG CCATTTGGGA AAGAACGTAA         1320

GAGTTTGCAG GGTGAGATTC CAGAAGAATT TTCAATGTCA GCCGTTGATA TGTCTATGAT         1380

TGACCATATC TCAGATATGA TTGAAAATGG TGTGGACAGT CTAAAAATCG AAGGACGTAT         1440

GGAGTCTATT CACTATGTAT CAACAGTAAC CAACTGCTAC AAGGCGGCTG TGGATGCCTA         1500

TCTTGAAAGT CCTGAAAAGT TTGAAGCTAT CAAACAAGAC TTGGTGGACG AGATGTGGAA         1560

GGTTGCCCAA CGTGAACTGG CTACAGGATT TTACTATGGT ACACCATCTG AAAATGAGCA         1620

GTTGTTTGGT GCTCGTCGTA AAATCCCTGA GTACAAGTTT GTCGCTGAAG TGGTTTCTTA         1680

TGATGATGCG GCGGTA                                                         1696
```

(2) INFORMATION FOR SEQ ID NO: 298:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1022 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1329

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 298:

CCGAGTTTAT TATGGTTTCT TCGGAATTTA TCTCAAAGAT TGAATTTGCT TGCAATAAGA   60

AAGAAAGTCT TTATAGTCAA AGCAAATTTA AGTATGCGAT TCGTTCGATG TTCGCAGGTG   120

CATTTTTAAC CTTCAGTACT GCTGCAGGTG CAGTTGGGGC TGACTTGATT AATAAAATTG   180

CACCAGGTAG TGGACGCTTC CTCTTTCCAT TCGTTTTTGC TTGGGGCTTG GCCTACATTG   240

TTTTTTTGAA TGCCGAGTTG GTCACTTCAA ACATGATGTT CTTGACTGCT GGTAGTTTCT   300

TAAAAAAAAT CTCTTGGAGA AAAACAGCTG AGATTTTACT ATACTGTACC TTGTTCAACC   360

TTATCGGAGC CTTGATAGCA GGGTGGGGCT TTGCTCATTC GGCAGCCTAT GCGAATCTGA   420

CACACGATAG TTTCATCTCA GGTGTTGTTG AGATGAAGTT AGGCCGCTCA AATGAATTGG   480

TCTTGCTTGA GGCGATTTTG GCAAATATTT TTGTAAATAT TGCGATTCTG TCATTTATTT   540

TGGTCAAAGA TGGTGGTGCC AAACTTTGGC TTGTGTTGTC AGCTATTTAC ATGTTTGTAT   600

TCTTAACAAA CGAGCACATT GCGGCGAACT TTGCTTCTTT CGCGATTGTG AAATTCAGTG   660

TTGCTGCGGA TTCAATTGCC AACTTCGGTG TTGGAAATAT GCTTCGCCAC TGGGGTGTGA   720

CTTTCATCGG AAACTTTATC GGAGGAGGCC TCTTGATGGG TCTTCCATAT GCCTTCCTCA   780

ATAAAAACGA AGATACTTAT GTAGATTAAG AAAATGAGCA CGATTGAGTC GTGCTTTTTT   840

CATTTTCAAA ATAAGGTAAT AGCTATTTCT TATATCAAAA TATAGAAAAC TGATATTTGT   900

ArACTATAAC TCAAGGTGCT ACAATATCCT TAATAAAATA ATATGGAGGT CACCTTATGA   960

CTTGTGATTT TAAATnTGAA ACTCTACAAC TACATGCTGG TCAAGTTGTG GCTCCAGCTA   1020

CT   1022

(2) INFORMATION FOR SEQ ID NO: 299:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 663 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 299:

CCTTAAGTAA TCTCTGATAA TATTTTCTTT ATTAGCATAG GGGAATATCG ATATAATGGC   60

TTCATTATGA GTGGCAGGAA TATCCAATAT GGCAACTTTT CCAATAGATA ATTTAAAACT   120

CATTAATAAA GTTCCTTTAG GTGAAATGTC TATTTTCTTT GATTTTAATG CTAATTTAGA   180

1330

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AATAGATTCT CTCGCATTAG TTACATAACC AGATATAGGC ATATCTGATA TAGATACCCA        240

AGGTATTTCA GTTCCCCAAA AAGTAGCTTC ACTGCGTGGA GGAGTTTTTC CTATTCTGAA        300

GTTAACTAGG CTAGCAAATT TAATATATCT CCATGCTTCT GGGATTTCAT ATATAGGATA        360

AGAGGTTGTT TCGTCTTTGT TCCCATAATA AGAGTTATCA TCTCCTTGGG AAACAATAGA        420

AATGTCCAAA TCTTTCTTTT TAATCTTGCC TTCTTCAAAG AGTTTTTGTT TTTCTGCTCG        480

TATTTTTTCA AGTAAAACTT CGACTGATTC ATCATTTGGG TCTTGTTCAA CTAATTTTCC        540

TTGCATAGCA TATTGAAGAA TAGATTTTTT TAGTTTATCT GGAAATTCTT TATCTAGCTG        600

TTCTAGTCTA TTATAACTTT CAGCATATTC ATCTACTTTT TCTAAAGCTG ATTCGATTGC        660

TTC                                                                      663
```

(2) INFORMATION FOR SEQ ID NO: 300:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 881 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 300:

```
CGTCGCTGAA CATGTCAACA GCAAATTAAA CTAAACAAAC TAAAATTATG TGATACTTCA         60

CATAATTTTC TTTAGAAAAT ATTATCAGAA GAAAGTTGAG AAAAATGGCA GAAAAAACAT        120

ATCCTATGAC CCTTGAGGAA AAGGAAAAAC TTGAAAAAGA ATTAGAAGAA TTGAAATTGG        180

TTCGTCGACC AGAAGTGGTA GAACGCATTA AGATTGCCCG TTCATACGGT GACCTTTCAG        240

AAAACAGTGA GTACGAAGCA GCTAAGGATG AACAAGCCTT TGTCGAAGGA CAAATCTCTA        300

GCTTAGAAAC AAAAATCCGC TATGCTGAAA TCGTCAATAG CGACGCAGTT GCCCAGGACG        360

AAGTAGCGAT TGGTAAAACA GTCACCATCC AAGAAATTGG TGAGGACGAA GAAGAAGTTT        420

ATATTATCGT AGGTTCAGCT GGTGCAGATG CCTTTGTAGG TAAGGTTTCA AATGAAAGCC        480

CAATTGGGCA GGCCTTGATT GGCAAGAAAA CAGGTGATAC AGCAACCATT GAAACGCCTG        540

TTGGTAGCTA TGATGTAAAA ATCTTGAAGG TTGAAAAAAC AGCCTAAAAA CAGAAAAAGG        600

AGTGGGGAGG CGATGTGCTT CACTCACTCC TTTTTCCATT TTGCTACTCT TCGAAAATCT        660

CTTCAAACCA CGTCAGCGTC GCCTTGCCGT ATGTATGGTT ACTGACTTTG TCAGTTTCAT        720

CTACAACCTC AAAACAGTGT TTTGAGCTAA CTTCGTCAGT TTCATCTACA ACCTCAAAAC        780

TATGTTTTGA GCTGACTTCG TCAGTTTCAT CTACAACCTC AAAACCATGT TTTGAGCCGA        840

CTTCGTCAGT TTCATCTACA ACCTCAAAAC TATGTTTTGA G                           881
```

1331

(2) INFORMATION FOR SEQ ID NO: 301:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 949 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 301:

```
CCTTTTTTAA TACAAGTTAT TTTGATTTAA CCGGCTTGTC TTGAGCTGTC TGCAAAGCTG      60

TGGCAATCGT ATCTGCATAC AATTTTGCTC CTGCTTCGAT AGTGCTACTC TCACTCCCGA     120

AATGAACCTG GTCTGTTCCA GCCCAAATTT CTGGATGCTC TTTCGCAACT TGATTCCAAT     180

CTGCTATCGT AATGTAAGGT GTCTTCTCTG CCAATTCTCT CATATAGGCA GCAGCCTTCT     240

CAACGATGGC ATAGGTCTCT TTTGTCTTAT CTCCCTCATA AGGAGTCACC AAAATCATAT     300

GGTGTCCCTT AGGAAGATTT TTCACGATAC TGTCCCAGTC ATCCTTGTAA TTCTCAGGAT     360

TATTTACCCC AGTCGCAATG ACCACCGTCT TAGGTAAAAA TTTATTCTGG CTATTATTTA     420

GCATGATTTC ATTTGCGGTC TTGGTTGTTA CGCTGACCTG CGCGTTAATC TGTGCTCCAG     480

GAAGAGCTGT CTGTAGTGCT GTATTTGCCC TTAAAGCCAC TGAGTCACCA ATTAACATAG     540

TGCCATCAGC AATTCCCAAA CTGTTTGCAT CTGCCCGTTC TGCCATCACC TTGGTCTGGC     600

CAATATTTGT TGCAGCTTGC TTCAAGCCAT TGACAGTCAA GTCTGTCTCA AACGCTCCCA     660

CTTGTGGTGC CAACAAGGTC ACCGTGCAGA CAATGATGGT CAAGATTCCT GTACCTGCTG     720

CAAGAATTGC GTGAATATAA GGCAGGGGAC GAAsGGTTTG GACAATAGGT GTGTTCTTGC     780

CTGCAATCCA AGGTTCCAAT ACATAAAATG ACAGACTGGC AAAGCCATAA GAACAAATCA     840

GAGTCAGTAA TACAGCAAGA AGATTTGATG TCAACTGTGA GAAAATGATA TAGAAAGGCC     900

AATGGAAAAG ATAAACCGCA TAGCTAGTAT CCGCTAAAAA GCTGATAAT                 949
```

(2) INFORMATION FOR SEQ ID NO: 302:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 622 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 302:

```
AAGATATATT TTTTACACAG AAGTATGCAA AAGTAAAGAG TGCAAAAAAT GGAATTAAAG      60
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1332

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CGAAAATAAA AGCCGTGTAC AGGCGACCAA ACCAACGTAC ACGGCTAAGG AAAAATAACA        120

AAACTCAAGC AAAGGCAAGG CGCCGTGGTTT TGTTAGGTAT TTAGCAAGGG GACAAACCCC        180

TTTGTAAATA ATCTCCTCTT ATTTTATCAA AATTAGAGGA AAATGACAAC TTAATTTATA        240

AAAAGGAAAA ATGGAGGATA TAAATGGAAA TTCTGTCTAA AGAAATACAG TTACAGGGCT        300

TACAACTTCT TAAACAGACT CTTGAAACTT TAGTTGAGCT AGAAAAACAA CGATCTAGTA        360

AGTTAGATTT AATTTCTCGT AAAGAATTAA TGGATCTGCT AGGTATAAGT GCTACAACCC        420

TTGATAACTG GGAGGATCTT GGTCTTAAAC GATATCAGAC TCCGATGGAT GGAGCTAAGA        480

AAGTATTCTA TCGTCCGTCA GATGTGTATT TATTTTTAGC AATAAAATAG GAGTTATGAA        540

ATGAAAATTG TTACTTTCAA ACCAACTAAA CAAATAGACG ATGGGTTTTA ACTGCCAGGT        600

ATTGACATTC TATTTGTCTC AG                                                 622
```

(2) INFORMATION FOR SEQ ID NO: 303:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1929 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 303:

```
CGCTAACTTG CAAACAAAAG AAGAACGCAA ACTCCACAAA TCCTTTACGC AGAAACTCAA         60

TCTCATCTAC TTACCTTGCT GACTTGGTAG AGTATGTTGC AGACAAAGAC TTCTCAGTAA        120

ACGTAATTTC TAAATCAGGT ACAACAACTG AACCAGCGAT TGCTTTCCGT GTCTTTAAAG        180

AACTCTTGGT TAAGAAATAC GGTCAAGAAG AAGCTAACAA ACGTATCTAT GCAACAACTG        240

ACCGCCAAAA GGGTGCTGTT AAGGTTGAAG CAGACGCTAA CGGTTGGGGA ACATTTGTTG        300

TTCCAGATGA TATCGGTGGA CGCTTCTCAG TATTGACAGC CGTTGGTTTG CTTTCAATCG        360

CAGCATCAGG AGCTGACATA AAAGCTCTTA TGGAAGGTGC GAATGCAGCT CGCAAAGACT        420

ACACTTCAGA CAAAATCTCT GAAAACGAAG CTTACCAATA CGCAGCTGTT CGTAACATCC        480

TTTATCGTAA AGGCTATGCA ACTGAGATCT TGGTAAACTA TGAGCCATCA CTTCAATACT        540

TCTCAGAATG GTGGAAACAA TTGGCTGGTG AATCAGAAGG AAAAGACCAA AAAGGTATCT        600

ACCCAACTTC AGCCAACTTC TCAACTGACT TGCACTCACT TGGTCAATTT ATCCAAGAAG        660

GAACTCGTAT CATGTTTGAA ACAGTTGTCC GTGTTGACAA ACCTCGTAAA AACGTGCTTA        720

TTCCTACTTT GGAAGAAGAC CTTGACGGAC TTGGTTACCT TCAAGGAAAA GACGTTGACT        780

TTGTAAACAA AAAAGCAACT GACGGTGTTC TTCTTGCCCA CACAGATGGT GATGTACCAA        840
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1333

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ACATGTATGT GACTCTTCCA GAGCAAGACG CTTTCACTCT TGGTTACACT ATCTACTTCT      900

TCGAATTGGC AATTGCCCTT TCAGGTTACT TGAATGCTAT CAACCCATTT GACCAACCAG      960

GTGTTGAAGC TTATAAACGT AACATGTTTG CCCTTCTTGG AAAACCAGGA TTTGAAGAAT     1020

TGAGCAAAGA ACTTAACGCA CGTCTATAAT AGAAGAAAAG AGTGGTTTGC CCACTCTTTT    1080

TACTCTCTTT ATCCATAGAA ATTGGACTCA GCCAAGACTT GTGATATAAT ATAGAAAGCA    1140

AAAAGGCAGA CGCCTAGATA ATAGGAGAAA CTATGTCAAA AGATATCCGC GTACGTTACG    1200

CACCAAGTCC AACAGGACTA CTACACATCG GAAATGCTCG TACAGCATTG TTTAATTACT    1260

TGTATGCGCG CCATCATGGT GGAACATTTC TCATCCGTAT CGAAGATACT GACCGTAAAC    1320

GCCATGTCGA GGATGGTGAA CGTTCACAAC TTGAAAACCT TCGCTGGTTA GGCATGGATT    1380

GGGATGAAAG TCCAGAATCA CATGAGAATT ATCGCCAGTC TGAGCGTTTG GACTTGTATC    1440

AAAAATATAT TGACCAACTA TTAGCTGAAG GAAAAGCCTA TAAATCTTAC GTTACAGAAG    1500

AAGAGTTGGC AGCTGAACGC GAACGCCAAG AAGTAGCTGG CGAAACACCA CGCTACATCA    1560

ATGAATACCT TGGTATGAGT GAAGAAGAAA AAGCAGCTTA CATCGCAGAA CGTGAAGCAG    1620

CAGGGATCAT CCCAACTGTT CGTTTGGCTG TCAATGAGTC AGGTATCTAC AAGTGGCATG    1680

ATATGGTCAA AGGCGATATC GAATTTGAAG GTGGCAATAT CGGTGGTGAC TGGGTTATCC    1740

AAAAGAAAGA CGGTTACCCA ACTTACAACT TTGCCGTTGT TATCGATGAC CACGATATGC    1800

AAATCTCTCA TGTTATCCGT GGAGATGACC ATATTGCTAA TACACCAAAA CAGCTTATGG    1860

TCTATGAAGC TCTTGGTTGG GAAGCTCCAG AGTTCGGTCA CATGACCTTG ATTATCCACT    1920

CTGAAACTG                                                           1929
```

(2) INFORMATION FOR SEQ ID NO: 304:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 708 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:

```
AAATTTAAGA AAAAGGAGAC ACATCATGTC TAAAAAAGTA TTATTTATCG TCGGATCACT       60

ACGTCAAGGT TCTTTCAACC ACCAAATGGC GCTCGAAGCT GAGAAAGCAC TTGCTGGTAA      120

AGCGGAAGTT AGCTACCTTG ATTATTCAGC CCTTCCTCTC TTCAGCCAAG ATTTGGAAGT      180

TCCAACACAT CCAGCTGTAG CTGCTGCTCG TGAAGCAGTT CTCGTTGCGG ATGCTATCTG      240
```

1334

```
GATTTTCTCT CCAGTCTACA ACTTCTCTAT CCCTGGTACA GTGAAAAACT TGCTTGACTG          300

GCTATCTCGT GCCCTTGACT TGTCTGATAC ACGTGGCGTT TCTGCCCTTC AAGACAAGTT          360

TGTCACAGTA TCATCTGTAG CCAATGCAGG GCACGATCAA CTTTTCGCTA TCTACAAAGA          420

CCTCTTGCCA TTTATCCGTA CACAAGGCGT TGGTGATTTC ACTGCTGCAC GTGTTAATGA          480

CTCTGCCTGG GCAsACGGAA AATTGGTTCT TGAAGAAACA GTCCTAAACT CACTTGAAAA          540

ACAAGCTCAA GACTTGGTCG AAGCTATCAA GTAACTAACA CTCAATAAAA ATCAAAAAGC          600

AAACTAkGAA GCTArCCGCA AGCTACTCaA gCACTGCTTT GAGGTTGTAG ATAGAACTGA          660

CGAGTGTnnA ACATATATAC GGTAAGGCGA CACTGACGTG GCTTGAAn                       708
```

(2) INFORMATION FOR SEQ ID NO: 305:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 781 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:

```
CTTCTTTTCT TGGAAATAGG TGTATAATAC GTTTATTAAA TTTTTGAGGA GTTGTCTATG           60

AAGAAAGTT TTATCCATCA ACAAGAAGAA ATTTCCTTTG TCAAAAACAC TTTTACCCAG           120

TATTTGAAAG ATAAGCTAGA AGTTGTCGAA GTTCAAGGTC CTATCTTGAG TAAGGTCGGT          180

GACGGAATGC AGGACAACCT GTCTGGTGTG GAAAATCCAG TATCGGTCAA GGTTCTCCAA          240

ATCCCTGATG CTACTTATGA AGTGGTGCAC TCACTTGCTA AATGGAAACG CCACACCTTG          300

GCTCGTTTTG GCTTTGGTGA AGGAGAGGGT CTCTTTGTCC ACATGAAAGC CCTTCGTCCA          360

GATGAGGATT CCTTGGATGC AACCCACTCT GTTTATGTTG ACCAGTGGGA CTGGGAGAAG          420

GTTATCCCAA ATGGTAAGCG TAACATCGTT TATCTAAAAG AAACAGTTGA GAAGATTTAT          480

AAGGCTATTC GCCTGACTGA GCTAGCTGTT GAAGCCCGCT ATGACATCGA GTCTATCTTG          540

CCAAAACAAA TTACCTTTAT CCATACAGAA GAATTGGTAG AACGCTACCC AGACTTGACA          600

CCGAAAGAAC GTGAAAATGC GATTTGTAAA GAATTTGGAG CCGTCTTTTT GATTGGTATC          660

GGTGGCGAGT TGCCAGATGG TAAACCGCAC GATGGACGTG CACCAGACTA TGATGACTGG          720

ACAAGCGAGT CTGAGAATGG CTACAAGGGT CTAAATGGTG ATATTCTTGT CTGGAATGAG          780

T                                                                          781
```

(2) INFORMATION FOR SEQ ID NO: 306:

    (i) SEQUENCE CHARACTERISTICS:

1335
(A) LENGTH: 846 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:

```
CCCGCATCTT GTAGGGTTTT AACGGGCACG ATTTTCATAT CCGTCTTGAT TGTTTTAGCC        60

GCTTCTAGGG CTGTTTGGTA GTTGTTTTTC GCGTCCGGAT GCGCCTTTTG TTCTTCTTCG       120

CTAACAGGGT TATCAGGAGC AAAGAAAATA GCAGCACCTG CCCTAGCCGA AGCTACAACC       180

TTCTTATCAA TACCTCCAAT GTCTCCCACA TTACCATCGC GGTCAATGGT ACCTGTACCG       240

GCAACAATAC GACCATTACG AAGATCTGGG TGAGCTATTT GAGTATAGAT AGCTAGACTA       300

AACATGAGAC CAGCACTTGG ACCGCCAATA CCAGCTGTTG AAAAGCTAAT TGGGACATTG       360

CTGATTACCT CTGTACGGTC AATCAAGCCG ATTCCAATTC CATTTTTGCC ATTTTCCAAG       420

GTGATGATTT TTCCTTCTGC AGACTTGGTT TGCCCATCCT CTTCATAGGT GACCTTGACG       480

GAATCCCCTA ATTTTTGAGA ACTGACGTAA TCAATCAAGT CTTTGGAACT ATCAAAGGTC       540

TGATCATTGA CTGCTGTGAC TGTATCAGAG ATATTGAGAA TCCCTTTAAA GGTTGAATTA       600

TCCGTCACAT TCAAAACATA AACTCCAAAG TACTTGAGTT CGATATCCTT ACCAGCTGTT       660

TTTAGTCCTT GATACTTGGC CATATTTTGC GATGTTTGCA TGTAGAATTG ATTGATTCGC       720

ATAAATTCAA CATCGGAAGA ACCACCTGTA GTCTCCTGAG CACTACGAAT ATCTGTAAAA       780

GGTGTCAACC AAGCATAAAT CATATGAGCT AAAGTGGCAT GTTGAACACC AACCGTAACG       840

AATTGT                                                                 846
```

(2) INFORMATION FOR SEQ ID NO: 307:

      (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 829 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 307:

```
GCGATCTGCT TGGGCTTTTC CTATTACCTT ATCTAATAAA TAGGTACGCA GACTCATAAC        60

CATATAAAGT CCACCCCCCA TGGCACCGAC AAGAGCTACA TAAAAGAAGC TCCACAAACG       120

TCCACTTGGT TGGAAGAAAA ATCCTAACAG CCACTGGATG GTTCCTATTA ACAGAAACAT       180

GACTAGGGTC AGCAAACTGA TTAAAATGGT TCGCTTCAAA ATCACCTTGC GCTTGACACC       240
```

                                        1336

AGTTACTTTA CAAATATCCC GATACATCAA GACGTTAGGA ATGATGAGAG CAATGGTTGT   300

TGAAATCAAA GGACCATAAC TGTGGAAGAG GGCGATGGTA GGTAGTTGCA AGACTAGCTT   360

GGCAATAGAA CCATAGATAA AATAGAGAAC GGCCTTGCGG TTGCGGAACA TGGCCTGAAG   420

CATTGGAGAC AAGACCATGT ACAAGCCTAA AATAATAGAC TGCAAAACTG CAAAGACAAA   480

TAAGCCCAGA GCCAAACTAT CTGGCTTACC ATAGAAGACC GTATAAAGAG GTTCTCCTAC   540

CATAACCACT CCAACCGTTG CTGGTAGCAA GAACATAAAG AGTAGGGTGA GACTGTCCTG   600

AACGAGACGA GAAGCTGCTT TCAAGTCCCC CTTGACATAG TTTTCCGTCA AAAGTGGCAA   660

ACCAACACTC CCAATCGAAA CCCCTACAGA AATCAAAATC ATCGTGATTT TATTAGGATT   720

GGCTGAGAAA TAAGAAAACA TGACAACCAA GTCCTCATTG CTGTAGTTGG TAAACCAGCT   780

CATACTATTG ATAAAGGTCA GCTGAGTCCA AATCTGGAAG AGCTGGATG   829

(2) INFORMATION FOR SEQ ID NO: 308:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 464 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 308:

CGAACATCTT GCTGGCTGAT TCGTCTGCCG CCATCGCAGC CCCGAACACA TTGCGACCCA   60

TGGCAAGCGG GCTCAATCCG CACATGGGAT CCGTGCCAAA GCCCCGCGTG TGCATCATTT   120

GCTCATCTAG TAACGTATGA GGTTTGCCTT CGCTGTCGAT AAACCGATAT TCAATCGCAC   180

CACTGCTCGT TCTCCGCGGA GGGGAAACCG ACTGCGGTAG GATGAACTCC AGAGAAGAGA   240

GATCACGACC TACCAGGTGC GGCTCGTTGA AGCTGTTGCC GCTTAGCAGC AGGCTCGCCA   300

CCACGCATTC CCAGAACTCA ACGGGGGTTT GATCGGCGTT CGGTTGCTGA CTAATAACTC   360

GGTGCACGGG ATGCGAAGTG GCCACTTCTG GCACACCGTT CTTGTCTTCG TAGAGAGCAA   420

TTGGGAGGGT GGCCAGCGTT TCGGCGATGA GGCGCACGCA GGCC   464

(2) INFORMATION FOR SEQ ID NO: 309:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 982 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 309:

1337

```
CCGTCTATAA TGGTAATAGA TTTTATTTGG AGGTTTTTAT GTCATTTCTA TCAAAAAATG        60

GAGCAGGTAT CTTGGCCTGC CTTCTCATTT CCATCCTATC TTGGTACTTA GGAGGATTCT       120

TCCCTGTGGT TGGCGCGCCC GTTTTTGCCA TTTTTCATAGG CATGCTCCTA CATCCCTTTC      180

TCTCGTCCTA TAAACAACTG GATGCTGGTT TGACCTTTAG TTCCAAGAAG TTGCTCCAAT       240

ATGCCGTTGT CTTGCTTGGT TTTGGTCTCA ATATCTCGCA GGTCTTCGCA GTTGGCCAAT       300

CTTCACTCCC TGTCATCCTG TCCACTATCT CAATAGCTCT GATTATTGCC TACCTCTTCC       360

AGCGTTTCTT TGCCCTGGAT ACAAAACTGG CTACCTTGGT TGGAGTAGGT TCTTCTATCT       420

GTGGGGGTTC TGCCATTGCA GCGACAGgCC CGTTATTGAT GCTAAGGAAA AGGAAGTAGC       480

CCAAGCCATT TCCGTTATCT TTTTCTTCAA TGTCTTGGCT GCGCTCATCT TTCCAACCCT       540

CGGCACCTGG CTTCATCTAT CCAATGAAGG CTTCGCCCTC TTTGCAGGGA CTGCCGGTCAA      600

CGACACTTCC TCTGTAACGG CTGCCGCCAG CGCTTGGGAC AGTCTTTACC AAAGCAATAC       660

CCTCGAGTCT GCAACCATTG TTAAACTCAC ACGTACTTTG GCCATTATCC CTATCACGCT       720

CTTTCTATCC TACTGGCAAA GTCGCCAACA AGAAAACAAG CAAAGCCTGC AACTGAAAAA       780

AGTCTTCCCA CTTTTTATCC TTTACTTTAT CCTTGCCTCT CTCCTCACTA CACTACTCAC       840

CTCTCTAGGT GTGTCCAGTA GTTTCTTTAC TCCTCTCAAA GAACTCTCTA AATTCCTTAT       900

TGTCATGGAC ATGAGTGCTA TCGGTCTCAA AACCAATCTG GTCGCTATGG TCAAATCCAG       960

TGGAAAATCC ATTCATCATG GA                                               982
```

(2) INFORMATION FOR SEQ ID NO: 310:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1939 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 310:

```
CTAGCTGCCA ATATGATTGG GGTGCAGAAG CGCGTGATTA TCTTTAATCT TGGCTTGGTT        60

CCTGTGGTCA TGTTTAACCC AGTGCTTCTG TCCTTTGAAG GATCCTATGA GGCAGAAGAA       120

GGCTGTTTGT CCTTGGTAGG TGTGAGATCA ACTAAGCGTT ATGAAACCAT AAGGCTTGCC       180

TATCGTGACA GCAAGTGGCA GGAACAGACC ATTACCTTGA CAGGCTTCCC AGCTCAGATT       240

TGCCAGCATG AGCTGGATCA CTTGGAAGGA CGAATCATTT AGGAGGAAAG CAAATGAAAC       300

GAATAGTCTT TGAACTTATT TTTATCGCAA CGACCTGGTA TATCTTTTTA CCGCCCCTTA       360
```

1338

```
ACCTGACCAG CTGGGAATTT CTCTTCTTCC TCTGTGGGCA TTTGTTAGTT GTGGCAATAT    420

TATTTGGCTT TGGCAAGGGG ATAAACCTTG TCAAAACGGT TCATGTGCGC CACGGTAAGG    480

CGGAAGCTGC CTTAAATCTT GAGGGTTTCA AAATCAATCG GTTAGGGAAA ATTCTGTTAG    540

CTTCGATTGG AGGAATTCTT CTCTTGGCAG CTTTGGTTTc CTTGGTAACT TCCAGCATGT    600

TTCAGGCTAA AAATTATGCC AATGTAGTCA CGGTTACGGA AAAAGACTTT ACTGAATTTC    660

CTAAGAGTGA CACCAGTAAG GTTCCTATCC TAGATAGAAG TACTGCTGAA AAAATTGGAG    720

ACCGCTACTT GGGTTCCCTA ACCGATAAGG TGTCGCAATA CGTAGCGGCA GATACCTATA    780

CCCAATTGAC AATTGATGGG AAACCTTATC GGGTCACACC ACTAGAATAT GCAGACCCTA    840

TCAAATGGTT TAACAATCAA GCCAAGGGAA TCGGTGAGTA TATTAAGGTG GACATGGTAA    900

CTGGAAATGC GGATTTGGTG GACTTGAAGA CACCAATCAA GTATTCAGAC TCGGAGTATT    960

TTAACCGTGA TGTCAAACGT CACCTGCGCT TGAAGTACCC GACCAAAATC TTTAAAACTC   1020

CATCTTTTGA GGTGGACGAT GAGGGCAATC CTTTCTATGT AGCAACGGTT TACCAAAAGC   1080

AATTTGGACT TGCTGTTCCT CGTCCTGCTT CAGTCATTAT CTTGGATGCT ACAAATGGAG   1140

AAACCAAGGA ATACAGCTTA TCAGATGTTC CAGAATGGGT GGACAGGATC TATCCAGCAG   1200

AGGAAACCAT TGAGCAAATC AACTACAACG GCAAGTACAA GGACGGTTTC TTGAATGCCA   1260

TGATTTCCAA GAAAAACGTG ACCCAGACTA CCAATGGCTA TAATTACTTG TCTATCGGTA   1320

ATGACATCTA TCTCTACACA GGTGTGACGT CGGCTAATGC GGATGAGAGT AATCTTGGTT   1380

TCATCCTTGA AAATATGCGA ACAGGAGAAA TCACTAAGTA TAGCTTGGCT TCTGCGACAG   1440

AAGAATCAGC CCGTGAATCA GCAGAAGGTG CTGTTCAGGA GAAATCCTAC AAAGCAACCT   1500

TCCCAATCCT CATCAACCTC AATGACAAGC CTCTCTACAT CATGGGCTTG AAGGACAATG   1560

CTGGCTTGGT CAAAGAGTAC GCCCTGGTAG ACGCAGTCGA GTACCAAAAT GTTATCGTTG   1620

CTACTACAGT GGAAGAGATG CTCAGCAAGT ATGCCAATAA AAACGACCTT GAAATTGACA   1680

ATGCAACGAC AGAAAGCATC AATGGAGTAG TAGCAGACCT CAAATCAGCT GTTATCAAGG   1740

GAGACACTGT CTACTTCTTT AAAGTTGATG GCAACATCTA CAAGGTCAAG GCTTCAGTAT   1800

CCGATGACCT TCCTTACCTT GAAAATGGTA AAACCTTCGA AGGTCAAGTA GGAAAAGACA   1860

ATTATCTCAA GACCTTTAAG CTACGGTAAA AATAGGTTTT TTTCAGAAAG TATATGTTAT   1920

AATAAGGTAA ATTAAGCCG                                                1939
```

(2) INFORMATION FOR SEQ ID NO: 311:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 907 base pairs
        (B) TYPE: nucleic acid

1339

```
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 311:

CCTGCTAATA GAGAGAAAGA CTAGGAGTAG AAGTAAGCCA ATTAAATAAT GAGAAAGTTT        60

CATACCCCGT CCTTTCATGT AGATTTGGTA TCGAAAGATA TCTGCGGATA TAAATGTAAC       120

ATTATTTTTC TAATCTGTCA ATAAAATTTC TGACAATTTA ATAAATACAA CAAGGAGAGA       180

GCAACAAGAC TTTCTCCTTT GTTATCCTAT TCTAAAATGT TTTTACCTTA ATCTGATAAA       240

ATAATATCTT CGAGGGAGTA GCTAGCCGTC CAATCAAGAT ATTGTTTAGC TTTTGAAGCA       300

TCTGCTAGGA CACTGGCTGG GTCACTAGCA CGTCGAGCAA CAATCTCGTG TGGGATTTTT       360

TAATTTAGTA ATTCTTCAGC AGTTTTAAAG ATTTCTTTGA TAGTATAGCC TTTTTTTAGTT      420

CCTAAGTTAA AGATTTGAGA AGAACTGTCT TCTTGAAATA GGTAGTTCAT TCCTTTAACA       480

TGAGCCTATG CAAGGTCCAA GACATAAATG TAATCTCGAA TACATGAACC GTCACGTGTA       540

TCGTAGTCAT CTCCAAATAT TTTTAAGCTA TCATTTTGTC CCAATGCGGT CTTGTTGATA       600

TTTGGAATGA TGTGAGTTGG ATTTTTCACA CGCAGACCGT TTGAAGCATC CATTTCAGCC       660

CCAGCAACAT TAAAGTAACG GAAAATAACA TATTTCCAGT CGTAGCGATT GGCCATCCAG       720

TAAATCATTC GTTCGCCCAT CAGTTTTGTC TCTGCATAAG GGTTGACAGG GTCGAGCAGG      ·780

GTATCTTCAG TCACCGGCTT GTCAATACAG TTATTTCCAT AGAGAGAAGC AGTCGAAGAG       840

AACATGATTT TTTGAATGCC AACTTCAGAT AAGACTTTGA GAACTTGGTT CATACCAGCA       900

ACGTTGG                                                               907

(2) INFORMATION FOR SEQ ID NO: 312:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 2170 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 312:

CCACATAAAG GTAAATATCT TTTGTACTAT CTTGGGCATC CAAGAAAAGC AATTGGGCAA        60

TAACAGAGTT AGCCATATTG TCTTCAACCG GACCTGTCAG CATAATGATG CGGTCTTTGA       120

GAAGACGTGA GTAAATATCG TAAGAACGTT CTCCACGGCT TGTTTGTTCA ATAACTACAG       180

GAATCATTCA TTTCTCCTTT TGAGTTTTAA TTTTGTTGGT CAAATGACTG AAGATAAGAC       240
```

```
                                   1340
TATTATAATA TCTTGGTCAA AAAAGGTCAA ATTTTTGCTC TGCTTTCATT AGACAGAAAC    300

AAAAACCCAA CCTCCTTTCG TGACTGGAAA TACTTTTCCA AGTCATTCTT CTTTTCGATC    360

TTATTTTGTA CCGAACAAGC GGTCTCCAGC ATCTCCAAGA CCTGGAACGA TATAACCGTG    420

TTCGTTCAAA CGTTCATCCA AGGCTGCTGT AAAGATTTCT ACATCTGGAT GAGCTTCTTG    480

AAGGGCTTTT ACACCCTCTG GAGCAGATAC AAGGCAGACA AATTTGATAT TTGATGCGCC    540

ACGTTTTTTA AGAGAATCAA CAGCCAAGAT TGCTGAGCCA CCTGTTGCCA ACATTGGGTC    600

TACTACAAAA ATTTGACGTT GGTCAATGTC CTCAGGCAAT TTCACCAAGT ATTCAACTGG    660

TTGAAGTGTT TCTTCATCAC GGTACATACC GATGTGGCCA ACTTTAGCAG CTGGAACCAA    720

GTTCAAGAGA CCATCAACCA TCCCGATACC TGCACGCAAG ATTGGGACGA TGGCCAATTT    780

CTTACCTGCC AATTGTTTTT GAACTGTTTT TGTAATTGGT GTTTCGATTT CCACATCTTC    840

TAGTGGAAGA TCACGAAGTA CTTCATACCC CATCAACATT GCAATCTCAT CTACTAGCTC    900

ACGAAAAGCT TTTGTAGAAG TATCTGTACG ACGCAAGATT GACAATTTGT GTTGAATCAG    960

TGGGTGATTA ATAACTTCAA TTTTTCCCAT TTTTGGAATT CCTTCTTTCA ATTTATTCTT   1020

CTTATTATAC CAAAAAACGG TTTAAAAATC TTTCTAAACC ATTTATTTTT GATAATTTTT   1080

ACATTAGATC AGCCTCTTTA AGAGCTGTCT GTACTGTCTC AAGTGGTAAA TGGGTCAATT   1140

CTGTCCCTTT TTCTTGATAA AGGTATTGGG CGTAGTCGTC CATTCGGTAC TGGTTGATAT   1200

AAACCACGCG CTTGCAGCCG ACCTGAAGCA ATTGTTTTGT ACAGTTGAGA CAAGGAAAAT   1260

GGGTTACATA GGCTGTAAAG CCTTTGGGAA CACCACGCTC AGCACCTTGA AGGATAGCAT   1320

TGACCTCAGC GTGAAGGGTG CGAACGCAGT GGCCTTCAAT GACCAAACAT TCGTGATCAA   1380

TACAATGCTC AGTCCCTGAC ACCGAACCAT TGTAACCAGT GGAAATAACC TTATTATCTT   1440

TTACCAGAAT CGCGCCCACT TTAGCACGTT TACAAGTGGA ACGATTCGCA ATTAGTAGAG   1500

CTTGGGCTGC AAAATACTCA TCCCAGGCCA GTCTTTTTTC AGTCATCTCT TTTCTCCTTT   1560

TTCTCTATTT TTTAAAAAAT GGTAAACCTA AATCTGCAAT CTTTTCAGCT GGTACCTTCA   1620

TGCCATCCTT GATCCATTTT AGAAGGACAG AGACGATGGC TGAGCTCCAG AAGGAATGAA   1680

GATAAGAGCT GACACCTTTT GATTTCCCAT GGTATTTTTC TAGAAATTCC TGCATGGCTT   1740

GGACAAAGAT TTTTTCCAGA TGGTAATCCA AGGCCAATTG AATTACTCTA GCTTCCTTTC   1800

TGGCCTCCCG GAAAAGGTGA ACCCAAACCA AATAAAGGTC TGTCTTTAAA TCGTAATGAT   1860

GCAGCTGTTC CATAATATTG TGGACAGTTC GTTTAAAGAC GCTCTCTAAA ATTTCCTCTT   1920

TGGAGTCATA ATTGCGATAA AAGGCCGCAC GCGAAACACC TGCACGTTTG ACCAATTCAG   1980

AAATACTAAT CTTGGTCAGT TCCTTTTTTT CCAAGAGTTG CAAGAGGGCT GTTTCAATGG   2040
```

1341

CTTCTCTGGT TAATAAATTG GATTCTTGGT TTGATTTTCT GAGATTTTCA AGAGACTTTT   2100

CAGAGATTCT ACGTTCAGAC ATAACATTTT CTTTCTACTT GTCACAACAG ACGGATGATG   2160

CTTTTGTTTC   2170

(2) INFORMATION FOR SEQ ID NO: 313:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 539 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 313:

ATCTGCACGA ATCAGGGCTT TCTAAGTGAC TATTTCCACC GAAATATTAT TTATATCAGG   60

AGGACATTCA TATGTCACGT TATACAGGAC CATCTTGGAA ACAAGCTCGT CGTCTTGGCC   120

TTTCACTTAC AGGTACAGGT AAAGAATTGG CACGTCGTAA CTACGTACCA GGACAACACG   180

GACCAAACAA CCGTTCTAAA TTGTCAGAAT ACGGTTTGCA ATTGGCTGAA AAACAAAAAC   240

TTCGTTTCAC TTACGGTGTA GGTGAAAAAC AATTCCGTAA CTTGTTCGTA CAAGCTACAA   300

AAATCAAAGG CGGAATCCTA GGTTTCAACT TTATGCTTCT TTTGGAACGT CGTTTGGATA   360

ACGTTGTTTA CCGTCTTGGT CTCGCGACTA CTCGTCGTCA AGCTCGTCAA TTCGTAAACC   420

ACGGTCACAT CCTTGTTGAC GGGAAACGCG TTGATATCCC ATCATrCCGC GTAACTCCAG   480

GTCAAGTGAT CTCAGTTCGT GAAArATCAT TGAAAGTTCC AGCAATCCTT GAAGCAGTA   539

(2) INFORMATION FOR SEQ ID NO: 314:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 667 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 314:

CCGGTTTTGC TCCTTCTCTA CGGCTACGAC GTGATGTATC TCTGATGATA TCCACTGTTT   60

CTGTAGCAGG CGTAGGTGTT TCTGGACCTG CTTGTTCTGC TTTTTTCTCT GCCGTCGTAT   120

AGGAAACAGC TACCCTTGTT GGGGTTTCAT TGTATTCTCT TTCAAGTTTC TTAGGTCTAA   180

CAGGACCTGG ACCTGGTCTT GATCCACTTT CTTCCGCTGG AGAAGAAGGT ACATCTTGAC   240

TTGGATGACT TGGAACACCA GGAGTTTCTC TTTGAATCTC ATCTGCTGGA GAAGCTGGTA   300

1342
```
CACCTTGACT TGGGTGAGTA GGCACGGTAG GAGCTTTTCT CATAATCTCC TCTACCGTTG        360

ACAAGGAATC AGCCATGAGT TCTTCAGTTG AAGGTTCATT TGCAGGAGTG CGAACTACTG        420

CCTCATCTTC TTTCAGAACT TCATCATAGC CTTTTACTTT TTCTAAATCT CTCAGAATCT        480

GCTCTTTAAA GCGTAATTTC TCTTCTGCTC TTGACTTTTC ACTCAAAAGT TTTTCCTCCT        540

TGTTGAGAAT CCATAATATT AGAGCTGAGA AGTCCAAAAA AAGCAATCTA TGATACTTTT        600

CCTAACGGAT TTTGTCATTT CCCAGACCAT ATCATACCAT GTTTCCCCTG CAAAGGTTGA        660

CTGGGAA                                                                  667
```

(2) INFORMATION FOR SEQ ID NO: 315:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1483 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 315:

```
GGGAAGCCAA GGTATTTTAT CGGATGAAGT TGTTACTAGT TCTTCACCGA TGGCTACAAA         60

AGAGTCTTCT AATGCAATTA CTAATGATTT AGATAATTCA CCAACTGTTA ATCAGAATCG        120

TTCTGCTGAA ATGATTGCCT CTAATTCAAC CACTAATGGT TTAGATAATT CGTTAAGTGT        180

TAATAGTATC AGCTCTAATG GTACTATTCG TTCCAATTCA CAATTAGACA ACAGAACAGT        240

TGAATCTACA GTAACATCTA CTAATGAAAA TAAGAGTTAT AAGGAAGATG TTATAAGTGA        300

CAGAATTATC AAAAAAGAAT TTGAAGATAC TGCTTTAAGT GTAAAAGATT ATGGTGCGGT        360

AGGTGATGGG ATTCATGATG ATCGACAAGC AATTCAAGAT GCAATAGATG CTGCAGCTCA        420

AGGGCTAGGT GGAGGAAATG TATATTTTCC TGAAGGAACT TATTTAGTAA AAGAAATTGT        480

TTTTTTAAAA AGTCATACAC ACTTAGAATT GAATGAGAAA GCTACAATTC TAAATGGTAT        540

AAATATTAAG AATCACCCTT CCATTGTTTT TATGACAGGT TTATTTACGG ATGATGGTGC        600

GCAAGTAGAA TGGGGCCCAA CAGAAGATAT TAGTTATTCT GGTGGTACGA TTGATATGAA        660

CGGTGCTTTG AATGAAGAAG GAACTAAAGC AAAAAATCTA CCACTTATAA ATTCTTCAGG        720

TGCATTTGCT ATTGGGAATT CAAATAACGT AACTATAAAA AATGTAACAT TCAAGGATAG        780

TTATCAAGGG CATGCTATTC AAATTGCAGG TTCGAAAAAT GTATTAGTTG ATAATTCTCG        840

TTTTCTTGGG CAAGCCTTAC CCAAAACGAT GAAGGATGGG CAAATCATAA GTAAGGAGAG        900

CATTCAGATT GAACCATTAA CTAGAAAAGG TTTTCCTTAT GCCTTGAATG ATGATGGGAA        960

AAAATCTGAA AATGTGACTA TTCAAAATTC CTATTTTGGC AAAAGTGATA AATCTGGGGA       1020
```

1343

ATTAGTAACA GCAATTGGCA CACACTATCA AACATTGTCG ACACAGAACC CCTCTAATAT   1080

TAAAATTCAA AATAATCATT TTGATAACAT GATGTATGCA GGTGTACGTT TTACAGGATT   1140

CACTGATGTA TTAATCAAAG GAAATCGCTT TGATAAGAAA GTTAAAGGAG AGAGTGTACA   1200

TTATCGAGAA AGCGGAGCAG CTTTAGTAAA TGCTTATAGC TATAAAAACA CTAAAGACCT   1260

ATTAGATTTA AATAAACAGG TGGTTATCGC CGAAAATATA TTTAATATTG CCGATCCTAA   1320

AACAAAAGCG ATACGAGTTG CAAAAGATAG TGCAGAaTwT TTAGGAAAAG TATCAGATAT   1380

TACTGTAACA AAAAATGTAA TTAATAATAA TTCTAAGGAA ACAGAACAAC CAAATATTGA   1440

ATTATTACGA GTTAGTGATA ATTTAGTAGT CTCAGAGAAT AGT   1483

(2) INFORMATION FOR SEQ ID NO: 316:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2453 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 316:

CCTGAACGCT TTTTTATAAA TATCATAAAG CCAATCTGAT TTATCAAGTG TGTCTAAGCG   60

ACGCGAATTA AAATTCATTG CATACTCCAT CGCTTCTAAA AAACTCATTT TTGAAAAGAC   120

GTTAAAATCA TCTAAATTCT GACTCCAATA TAATAACAAA ACCAATCCCA TAATATCCTC   180

TGGTTGATTA TTCAATAAAT TTAAGTTGGT TTCATAAAAC CCTGGAGTTC CAAATAGAGG   240

CAACTTTTTT TCTTCAATTT GAGTTTCTTT CCTTAGGGCA TGCTCAAAGT CTATAATATA   300

AATATTATTT CTATTATCAA TAAGTATATT ATTAAATGAT AAATCTCTAT AGGAAAGATT   360

ATATTTGGAG TTTATTATCT CCATATAATC AATTAATGTT AAAAACCAAT CATACGAGCC   420

ACTAACCATA TTATACTCGC TTAATTTATC TGCAATAATA AACTCAAATT CCACAAAATA   480

CGAATTCTTT ATGTAAAAAT CGTTAAAAAC TTTTGGAGTA AATTCCTCCT TTTCCAATTC   540

TACTAATATT TCTCTTTCAT TTATTAAACG ATTCACAGAA TCTCTATTTG TAAAATCAAC   600

CAACGATAAA TCACTAGCTT CTTTTAATAA AGAATAAACT CGCTTTTGAG TATTAAATAC   660

TTTATAAACT CCACCTTTGG CATTTTTAGA AATCACTTCC AAAATAATAT ATTGATCAGG   720

AATAGTGTTA TATCTTGGAA TATAGTAATC CCTTATTGGA ACATTCACAT TTGAAGGGAT   780

TTTCTTATCT CTTTTATCCT TGAAAGTGCT ATCTTTTACG AACTCCCCAT ATCTGTAATA   840

TACAACCTCG CTAAGTTGAA ATCTGAAATC TGATGGTATG TTTACACCCT TTACACCTTT   900

1344

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ATACAATATT TCTAATTTGT GTAACAAACG TTGAAACTCT TTATTATCTT TTGGATAAAT    960

TGTAATGAAT TTCCCGACTT GTGAATAACC ATTAAGCCCT GTATTTTGCA AAGAAAGTTC   1020

TTTAATGCTA ACCAAAATTT TGAAATTTAT CTTCTTCTCT CTAGAAAATA TAAAATCAAA   1080

GAATTTTTTA GCAACCAAAT TAGCATTTAA TATTGAAGCG CTCAGGTGTA TTTTAAATCC   1140

CTTAGATTGG GTGATATTAG ACGGCAAATT ATATAACCAA TGTTCATCAC TAAAATTATC   1200

ACTAATTTTA TATTCTAATA ATAAATTATG GTATGCGTCT TCTATTTCAG TTTCATAGTC   1260

CAAATAGTTT AAATACTTTT CGTAATTCAT ATTAAGAAAT CTTCTCCATA AATTTTTAGA   1320

CCATCATTTA AAGCCAAACA ATTTAAAGCG TGATAATAAA TGTTGATAAT CAATGTAACT   1380

TTCAGTCCTC TATTTTGTAA TTCCTTCACC AATAATTTTA TGCTATATCT ATTTTCTCGA   1440

GGCAATTTAT AGGACTTCAA GATAAAACCA TAAAAGAGAT AAGTATTATA ATCTGACAAT   1500

CCAGTTTCAG AATAATTTTT TAGAAAAATA TCTAGTGATT CTGATAATTC ATCCGGAATA   1560

ATTCTTTTAA CATCGTATTT ATTTTTCATA TCGGCCACTC TTCCTTAAAA AGCTCACAAT   1620

AAAATTTTAA ATTTCTATAC AACAATCCGA GAGTAGTCTC ACAATTTGAA CATTTCACAT   1680

CACTCTTAAT ATATAAAAAA TGAATTAATC AGAAACCTCT GACTAAGATT TCCTAATTAA   1740

TTCACTTTCT ATATCATAGT AAGGAATTCT ATTATCCCTA ATTGAAAATT GAAATTTTAT   1800

GTTTTATATA TTAACAATTA TGCGGATTGT AAATCTTGTC TAACAAAATG GCAAGTGCTA   1860

CTATGTGCCC CAGAAGGCGA TGCAACGCTA TTTTGAATTG AAAGAGCATA ATCATCCATA   1920

TCATTTAAGT CACGGATTAG CAATGCTTCC TTCTCTCTTC CGACAATTCC AAATTTTCTA   1980

ATTACCTTTT CAGGATTATC AAAAAATTCT CCAACAACTT CCATATTTCC TTGAAGTTCA   2040

TTCAAGAAAG CTTTCATTTG ACTACTCATT ATATAGCTCC TTTTCTATTA CTTTATTTGG   2100

AATCAAAACT TACTTGTACA TTGGAAACAC CTCTATTCTA CGCTTTCATA TTGCTGCATG   2160

ACACTTTCAA AATCAAATTG CTAAAAATAA TTTTTTAAAG CTTAATTTAG ATTTAATTAC   2220

ATATATCTCA AAAAATTGTT TTGAAATTAG TAAATTAAAA TAGGTTTCTG TACTTATAGG   2280

AACTAGTTAT AAAAACTTCG CCCATCATAA AATATCTATT TAAGTAAAAC AAAAATTTTA   2340

TAATTTTTTG ATTTTTAAGT GACTATAATC TCCTATCTAT AAATACCATT CGCAGGACCT   2400

GGATCAATCC CTCTAGCCAT CTTATGAACT TGAGTTCCTC CAGACAGTCC CGG           2453
```

(2) INFORMATION FOR SEQ ID NO: 317:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1049 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1345

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 317:

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CCAATTTGAA GGCTCTAAAA CAATGGAAAA GTGCTACACA GATGTGACAG AATTTGCCAT      60

TCCAGCAgTA CTCAAAAACT TTACTTATCA CCAGTTTTAG ATGGCTTTAA CAGCGAAATT     120

ATTGCTTTTA ATCTTTCTTG TTCGCCTAAT TTAGAATAAG TACAAACAAT GTTGGAACAG     180

GCATTCAAAG AGAAGCACTA TGAGAATACG ATTCTCCATA GTGACCAAGG CTGGCAATAC     240

CAACACGATT CTTATCATCG GTTCCTAGAG AGTAAGGGAA TTCAAGCATC CATGTCACGC     300

AAGGGCAACA GCCCAGACAA CGGCATGATG GAATCTTTCT TTGGCATTTT GAAATCGGAG     360

ATGTTTTATG GTTATGAGAA GAACTTTAGA TCTTTAGAAA ACCTTGAACA AGCTATTGTG     420

GACTACATTG ATTATTACAA CAACAAGAGA ATTAAGGTAA AGCTAAAAGG ACTTAGCCCT     480

GTGCAATACA GAACTAAATC CTTCGGATAA ATTAATTGTC TAACTTTTGG GGTGCAGTAC     540

ATTTTTGGTA TATATAAAAT TTGTAGGAGC TATATCTACA ATTTTATATT CCCAGTTTAT     600

GGATGTAACT TACTATATTC ACAATGTTAT CCAGTGTTTT TTCTCTAATA TTTAAGGAGT     660

GTTCTGTTTC TCGAATAAAT TCTTCAAAGT TTAACCCGTC AACTTGTTCC TGAACAAGAA     720

AATAATCATC CACGATATAA AATTCATCAG TTAAATTAGT AGTATAACTT TTATCGGCTA     780

ATTTTTTTAG CATGTGAGCT TCATTTTTTA TATCATCAAG AGCTGTCCAT TCTCCTTCAG     840

CATCATAATT CACAAAAGGT CTTGACTGCT TGATGATTAC TTTTTGCCCG TCCGATTTTC     900

TAATTGCCCG ATAAACATTT CCTTTATTTG ATCTCTTAAT AATTTTTTCC ATTTTGTATT     960

TATTTATTGC AGAGTCCTTA CTTGAAACTT CACATGTGGT TTGAAAATAA ATCCTTTTTT    1020

CTTCTTCTGA AAATAAATCC ATTTTCCGG                                     1049
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(2) INFORMATION FOR SEQ ID NO: 318:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 776 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 318:

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TTAGTTGGTT AGAATCAGAA AATCGCCGAA GTGGTTATTT ATTTTTGAAT AAAATTTAACG     60

AACCAATTAC AGCAAGAGGA GTTGCTCAAC AGTTAAAAAA TTATGCTGAT AAATACAAAA    120

TGAATCCTAA AGTAATTTAC CCTCATTCTT TTAGGCATTT ATTTGCTAAG AATTTTTTAG    180
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1346

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CGAAGTATAA TGATATTGCC TTGCTTGCAG ATTTGATGGG ACACGAAAGT ATAGAAACTA        240

CTCGAATTTA TCTAAGGAAA ACAGCTACTG AACAACAAAA TATTGTAGAT AAAATTGTTA        300

ATTGGTAAAA AATAACAGGT GGTCAAACTG ACTACCTGCT ATTTTTGTGA TTATGGCTCT        360

TATTATGGGA ATATACCTAT GAATTGGGTT GTTATAAAAA TAAAAGATAT TTTTTCAATA        420

AATACAGGTC TTTCTTACAA GAAGGGCGAT TTAAGCATTA ATAATAAAGG TGTTAGAATT        480

ATACGTGGTG GTAATATTAA GCCTTTAGAA TTTTCTCTGT TGGATAATGA TTACTACATT        540

GATACACAAT TCATCTCCTC TGAGCAAGTT TATTTAAAAC ATAATCAGCT AATAACACCT        600

GTATCAACCT CTTTAGAACA TATTGGAAAG TTTGCAAGAA TCGAGAAAGA CTATGATGGT        660

GTTGTGGCTG GTGGATGTAT TTTCCAATTA ACACCATTCG AAAGTGCAGA GATGATGTCA        720

AAATGTCTAT TATGTAACTT GTCCTCTCCG TTATTTTATA AACAATTGAA AGCAAT          776
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(2) INFORMATION FOR SEQ ID NO: 319:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 658 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 319:

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TGCAATGCGG CGGCTGCATA CGCTTGATCC GGCTACCTGC CCATTCGACC ACCAAGCGAA         60

ACATCGCATC GAGCGAGCAC GTACTCGGAT GGAAGCCGGT CTTGTCGATC AGGATGATCT        120

GGACGAAGAG CATCAGGGGC TCGCGCCACC GAACTGTTCG CCAGGCTCAA GGCGCGCATG        180

CCCGACGGCG AGGATCTCGT CGTGACCCAT GGCGATGCCT GCTTGCCGAA TATCATGGTG        240

GAAAATGGCC GCTTTTCTGG ATTCATCGAC TGTGGCCGGC TGGGTGTGGC GGACCGCTAT        300

CAGGACATAG CGTTGGCTAC CCGTGATATT GCTGAAGAGC TTGGCGGCGA ATGGGCTGAC        360

CGCTTCCTCG TGCTTTACGG TATCGCCGCT CCCGATTCGC AGCGCATCGC CTTCTATCGC        420

CTTCTTGACG AGTTCTTCTG AGCGGGACTC TGGGGTTCGA TGTCGACAGC CCGCCTAATG        480

AGCGGGCTTT TTTTTCCTGA GGCTGGACGA CCTCGCGGAG TTCTACCGGC AGTGCAAATC        540

CGTCGGCATC CAGGAAACCA GCAGCGGCTA TCCGCGCATC CATGCCCCCG AACTGCAGGA        600

GTGGGGAGGC ACGATGGCCG CTTTGGTCCC GGATCAATTC GCGCGACCGG ATCGATCC        658
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(2) INFORMATION FOR SEQ ID NO: 320:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1475 base pairs
        (B) TYPE: nucleic acid

1347

(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 320:

CCGGCTTAAT TTTTAGAAAA CGTGGGCAGG GAACCTTTGT TCTCTCTCGT GGCAGCTCAA   60

AAAGAAAATT AATCGTTCCA GAAAGAGATA TCCGGGGACT GACAAAAATA TCTGAAGATG   120

CTCATTCTAC AATTGACTCG AGGATTATTC ACTTCAAATT AGAATTTGCA AATGAATTTT   180

TAGCAGAAAA ACTACAGGTC GCTTTGCAGA GTCCAGTTTA TAATATTTAC CGCCTGCGTA   240

TTATTGACGG TAAACCTTAT GTTCTGGAAC AAACTTATAT GAGTACCGAT GTTATTCCAG   300

GTATTACTGA AGATATTTTA CAAAAATCGA TTTACAATTA CATTGAAGGA AAGTTAGGAT   360

TGCATATTGC CAGTGCTACA AAAATCTTAC GAGCTTCTTC TAGTTCAGAA AATGAGCAAC   420

ATTACTTGCA GCTCCTTCCA ACGGAACCGG TATTTGAAGT AGAACAAGTG GCTTATTTGG   480

ATAACGGAAC TCCGTTTGAG TACTCGATTA GTCGTCATCG CTATGATTTA TTTGAATTTA   540

ATTCTTTTGC ATTACGACAT TCCTCCTAGG AGAAAATGTG AAAATGAAGC CAATCTTTTA   600

CAGACTCTAG TTTAAGAAAA ATTTAAAACA GGGCAAGAAG GTCCCATCTA TGCTTAAATG   660

GTTTCTCTTT TCTAAATAAG ATGGCTTTAA AAGAGTGATC GTTGTATCCA TCATGTTGAA   720

AAATATCTTC GTATAGCTTA TAGAGTAGGT ACTGAAATTG TTCACCTGAT CTACTTCTTA   780

TAGTTATTTA GTTTTAAATA GTGTTTCAAA CATTCTTACA CTGACGAGAA GTTTTTGAGT   840

CTTTTCTTGT AACACATATA GTATACTGTG GTTAGAATAG TAGACTGTGA CTTCTAACAA   900

ATTGCTAGAA ATGAATTTCA ATCTCCCAAT TTATTTGTTC ATATCTTCTT TTAATATATT   960

AAATAAATTC TAAATCATAA TCATTTAAAA AAATTTTATT TTTTATTTTT CATTACGAAT   1020

AATATAGATG AAGGGGAAAG AGTATGAAAA CAGAACTGTT TCTTTTGCTA TTAGTTCAAA   1080

AGGAGAAAAA ATGAAAGTAG AAAATATTTC GTATAGGGTG GATCATCGTA AATTGTTTGA   1140

TAATATTTCT TTTGATACTT CGAGTTCAGA CGTGACATTA ATTACTGGTA AAAATGGTAC   1200

AGGAAAGTCA ACTTTACTAT AGTAGATTGA AACTAGAATA GTACACATCT ACTTCTAAAA   1260

TATTGTTAGA AATCGATTTG ACTATCCTGA TCTATTTGTC CTGTTCTTAT TTCATTTCAC   1320

TATATCTCAA ATTGAGTATG ACGAAGTGCG CTCCCATGTC CTGGGAACGC ACTTTCTTCA   1380

TATTTTTCAT ATTCTTGAAT CCATCGATAA AGACTATTGG GATGAATTTT TAAAGTTGAA   1440

CTAATCATTT TTACAGGATG AGATTTACAG CAGAG   1475

(2) INFORMATION FOR SEQ ID NO: 321:

1348

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(i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 560 base pairs
      (B) TYPE: nucleic acid
      (C) STRANDEDNESS: double
      (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 321:

GAAATATATA TACTTCATCT TAATAGTGAG CAAGCTAAAC TTAGCATTTC ATGCCCTCAT      60

ATGGGATGTT CTTTGACTAA ATAATATGAT TATCGAGATA TATCTGGATA AATGAACTAA     120

TAAGTCTGAC GCGTAGACTT ATCAAAGTCA TTGGCATACA CCACTATGAA CTCGTTGGTC     180

TGTTCAAATC CCAACACATT ACCTGAGAAG AAAGTTGCAA TGTTGTTTTT GGTGCGGGTT     240

TGAATTTAAA AAATTTGTTA TGTAGTACCT AATCTAAGGA ATTAGAACAA TGCCTCTAAT     300

TTTTCTTTAA TACACTGAAA CATTGATGAT TCTGGCTGTA TTTTTGAAAC AGCTCTTCTT     360

TGCTCCTGGA AAATATCTTC AGAAGTTATA TTCTCTATTC CTAACGCTAC TTGAGTTTTT     420

TTTCTAAAAT ATTCTTTTCC GTTGCCATCT TTAGAAAAAT CATAACCTTC CCTATCTACG     480

CTGTTACACA AATTAGCTAA AAAArACTCT GGGGTTGGGA AAGGAAGATA AGAAaCGTAT     540

TTAGCCCATA ATCTATAAAG                                                560

(2) INFORMATION FOR SEQ ID NO: 322:

        (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 643 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: double
              (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 322:

CCGCCCGGCC ACCGCTGCCT ATCCTCGGGA GAGGGTCACC TGGAGTGAAC CTAGAACGAT      60

AGACACGGTG CGGTACGACC TCGTACTACT TTCGCCGACG GCCTCGTCCG TTGTCATCCA     120

CGAACTGATC GGACATGGGT GCGAACACTT CAGAGAAAAA ATCGTTGGAC TGCGTGTCGG     180

GCCTGAGGAA CTACGGGTGG TGGCTTTTCC GAAGAACGGC TCCGGGTTTG ATGACGAGGG     240

TACACCCTCC GAAGAGATTG TACTTGTGGA GAACGGCATT GTGAGGCACG CTGTCAGGGA     300

TCGGGCGACT GGAGGAATGG CGCCTTTTTC CGGTTTGACC AAAGTGGCAT CACATGGTGT     360

CAAACCTGGC TCAAGATGTA CGCATCTCAA GGCGGAAGGG GAATCGTCAC AGGAAGGAGT     420

TACCGGAGTA CCCGCCGAAC GCACCGTTTG GATAGAGCAT TTTTCTGCAG CGAACTACCA     480

TTCAGGTCGA GCCTTTTTCA GGTCTGGCCT TGCCTGGGTA GGCAGCCGAG AAGAACTCTT     540
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1349

ATATCCCTTA ATGCCTTTCA CCATGTCAAT TGATATCTAC GAACTGGCCA GCTTATTGTG   600

GCATTTAGAC GGTCAAACGG AACGAGCACG TAGGGTACTG TGC   643

(2) INFORMATION FOR SEQ ID NO: 323:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 780 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 323:

GGTACCCACT CATTCTTGAT GAATTGTGAA CAGTTGCCCT TGGGTCGTTT TGCGAGTTGA   60

AGTCAAGAAG AGGAAAAAAA CAAAAAGGAG AAATACTCAT GGCAGTAATT TCAATGAAAC   120

AACTTCTTGA GGCTGGTGTA CACTTTGGTC ACCAAACTCG TCGCTGGAAT CCTAAGATGG   180

CTAAGTACAT CTTTACTGAA CGTAACGGAA TCCACGTTAT CGACTTGCAA CAAACTGTAA   240

AATACGCTGA CCAAGCATAC GACTTCATGC GTGATGCAGC AGCTAACGAT GCAGTTGTAT   300

TGTTCGTTGG TACTAAGAAA CAAGCAGCTG ATGCAGTTGC TGAAGAAGCA GTACGTTCAG   360

GTCAATACTT CATCAACCAC CGTTGGTTGG GTGGAACTCT TACAAACTGG GGAACAATCC   420

AAAAACGTAT CGCTCGTTTG AAAGAAATTA AACGTATGGA AGAAGATGGA ACTTTCGAAG   480

TTCTTCCTAA GAAAGAAGTT GCACTTCTTA ACAAACAACG TGCGCGTCTT GAAAAAATTCT   540

TGGGCGGTAT CGAAGATATG CCTCGTATCC CAGATGTGAT GTACGTALTG ACCCACATAA   600

AGAGCAAATC GCTGTTAAAG AAGCTAAAAA ATTGGGAATC CCAGTTGTAG CGATGGTTGA   660

CACCAATACT GATCCAGATG ATATCGATGT AATCATCCCA GCTAACGATG ACGCTATCCG   720

TGCTGTTAAA TTGATCACAG CTAAATTGGC TGACGCTATT ATCGAAGGAC GTCAAGGTGT   780

(2) INFORMATION FOR SEQ ID NO: 324:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 624 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 324:

CGGGAAAAAT CAGATTGTGG GTTCAGATAT CGAATTAGCC AAGGCTATCG CAACAAAACT   60

AGGTGTCGAA TTGGAACTAT CTCCCATGAG TTTTGATAAT GTACTGGCTA GTGTTCAATC   120

1350

AGGAAAAGCC GACCTTGCCA TATCAGGTGT TTCTAAGACA GATGAACGGA GCAAGGTGTT   180

TGACTTTTCC ATTCCCTACT ATACTGCAAA AAATAAACTC ATTGTCAAAA AATCTGACTT   240

GACTACTTAT CAGTCTGTAA ACGACTTGGC GCAGAAAAAG GTTGGAGCGC AGAAAGGTTC   300

GATTCAAGAG ACGATGGCGA AAGATTTGCT ACAAAATTCT TCCCTCGTAT CTCTGCCTAA   360

AAATGGGAAT TTAATCACAG ATTTAAAATC AGGACAAGTG GATGCCGTTA TCTTTGAAGA   420

ACCTGTTTCC AAGGGATTTG TGGAAAATAA TCCTGATTTA GCAATCGCAG ACCTCAATTT   480

TGAAAAAGAG CAAGATGATT CCTACGCGGT AGCCATgAAA AAAGATAGCA AGAAATTGAA   540

AGAGGCAGTT CGATAAAACC ATTCAAAAGT TGAAGGAGTC TGGGGAATTA GACAAACTCA   600

TTGAGGAAGC CTTATAAGCA TCCA   624

(2) INFORMATION FOR SEQ ID NO: 325:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1237 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 325:

TCTTATGAAG CCGAAGCGTG ATTTATGGCG GATAGGTTTG GTCTGCAGAA AGTGACAAAT   60

CTAGTGCCAT CAGCGTATAT GGAATCTnTG GCTGAGAAAC AGTCCCGGGG TGAACTGACT   120

TATGAGCAGG TTTATGAGGA TGCAACGGCT TATCATCATA CCATTGATGC GAGTACAGAG   180

GAGGCAGACT TGGTTTCTCT ACGTATTGTA GAACTATTGT CTCGAAGAGG CTTTAGCTTC   240

AGTCCTGCGA TCTTACTTGC TATTCATAAG GAGTTGTTTC AAGATATATT TGAACCCTCG   300

ATTCCGGTAG GTCAATTTCG TCAGACTAAT ATCACAAAGA ATGAACCTGT TTTGAATGGT   360

GAAAGTGTTG TGTACTCTGA TTACTCCATG ATTCAAATGA CCTTGGATTA TGATTTTAAT   420

CAGGAAAAAC AAGTTGCATA TGCGACACTA ACCCAGGCGG ATATGGTTAA AAAAATCCAG   480

CATTTTATTT CAGGAATCTG GCAGATTCAT CCATTTCGCG AAGGAAACAC TCGGACGGTA   540

ACGGTATTTT TGATTCAGTA TCTTCGTGAG TTTGGTTTTG ATATTGATAA TACACCATTT   600

CAGCAACATT CCAAGTATTT TCGTGATGCC TTAGTGTTAG ATAATGCAAA GATTTTACAG   660

CGACGTCCTG AGTTTTTAAC AGCTTTTTTT GAAAATCTCT TGCTCGGTGG TCAAAATGAT   720

TTGTCTTCAG AAAAAATGTA TCTAGATTTA GACCTCGATC TTTCATAATC CTAATACTGA   780

GTAAACATTG AATTTTAGGA AAAAATGAAG TAAATATTCT CACAAGAAAA CGTATATCAT   840

CAAAGTTTGG CTCTTTGTCA ATTGTAGTGG GTTGAAGAAA AGCTAAGTTC GAGAAAGGGC   900

1351

AAATTTCGGC CTTTCCTTTT TGATGTTCAG AGCGATAAAA ATCCGGTTTT TTGAAGTTTT   960

CAAAGTTTCG AAAACCAAAG GCATTGCGCT TGATAAGTTT GATGAGATTA TTGGGCGCTT   1020

CCAGTTTGGC ATTAGAATAG TGTAGTTGAA GGGCGTTGAT AACCTTTTCT TTATCTTTGA   1080

GGAAGGGTTT AAAGACAGTC TGAAAAATAG GATGAACCTG CTTAAGATTG TCCTCGATAA   1140

GTTCGAAAAA TTTCTCCGGG TCCTTATTCT GAAAGTGAAA CAGCAAGAGT TTGAAGAGCC   1200

GATAGTGATG TATCAAGTCT TGTGAATAGC TCAAAAG   1237

(2) INFORMATION FOR SEQ ID NO: 326:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 461 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 326:

TTTGATTTTT CTGAATTAGA AGAGATTGAA TTGCCTGCAT CTCTAGAATA TATTGGAACA   60

AGTGCATTTT CTTTTAGTCA AAAATTGAAA AAGCTAACCT TTTCCTCAAG TTCAAAATTA   120

GAATTAATAT CACATGAGGC TTTTGCTAAT TTATCAAATT TAGAGAAACT AACATTACCA   180

AAATCGGTTA AAACATTAGG AAGTAATCTA TTTAGACTCA CTACTAGCTT AAAACATGTT   240

GATGTTGAAG AAGGAAATGA ATCGTTTGCC TCAGTTGATG GTGTTTTGTT TTCAAAAGAT   300

AAAACCCAAT TAATTTATTA TCCAAGTCAA AAAAATGACG AAAGTTATAA AACGCCTAAG   360

GAGACAAAAG AACTTGCATC ATATTCGTTT AATAAAAATT CTTACTTGAA AAAACTCGAA   420

TTGAATGAAG GTTTAGAAAA AATCGGTACT TTTGCATTTG C   461

(2) INFORMATION FOR SEQ ID NO: 327:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1436 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 327:

TAACATTTAG GTACCTCTTC TTAACAAAGT TCAATAGTAA CAATTAATAT TTTAAACAAT   60

ATATCAAACA TCAATGACTA GAATACTTGC ATCATCCTTC TTTCCATAGA TTGGATCAAT   120

AGCAGAAGAA TTAAATCTCA TCTTAATTAA CTCTTCAAAA GTTTTATTTT GATTATTTTG   180

1352

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ATAGAATTCA TAAAAGCCAT CGCTCATTAA AACAATTTGT TCACTAGTAA CATCTATTTG        240

ATTAATAATA GCATGGTCTA AAAATCTCTC ATCCAACGAA CCTATCCAGT ACCCACTCGG        300

TTGATTAGAT AATTTTCTGA TTTTTTGTAA AATAATTTTT TTATTTAAAA CACTATTTGT        360

ACCAATTGAA TCTTTTATCT CATTTTTCCC TTTTTCAAAT AAGTTATCTA CTCTATGATC        420

AGTTATTTCC ATTTCGTTTA CTAACATGAC GCAGTCACCT AGCATCATAT ACTCCAACTT        480

TTTTTCTGAA AGTTTAGCAA ATATTGGTAA GCGATAATAT AGTATATTGA AACTAGAATA        540

GTACACCTCT ACTTCTAAAA CATTGTTAGA AATCGATTTG ACTGTCCTGA TTGATTTGTC        600

CTATTATTAT TTCATTTTAC TATACTCTGT TAATTTATAT GAGTTTAAAC CGATTTCATC        660

TTTAACCTCG AGTAAAGCAG TTTCAAATAT TTGTTTAAGA GTTTTTGATT CTTTACAATT        720

AACCGACAAA CTTTCTGATA AAATATGTAC AACTTCTGAG ACTGAATAAC CTATCTCCTC        780

TTTAGAATTA TATAAATCTG TAGCTCCACC AATAATCCAA AAATACTGAT TTTGTGAACC        840

TACAATATCC TCATTTTCTA CGGAACTTCC TTGTATCGAA CAAATTTTAT TTATCTTTAC        900

CATAATACTT CAACCCTTTT AGTGTCAAAA GTAAACCAAT TCCTGTCACT GTTAAGAATA        960

GTTCCATAAT CTTATTCGAA CCAGTCTTTG GTAATTTTTG TTTkACATCT ACTATyTCTT       1020

TAGATTTATT AATATGATTT TCAGTTTCTC TGCCATCTCC AACTATTTTA TAGTTTACTT       1080

CTTCTGTCTT ATTATCTTGT TTATTGTCGA TCTTGTCATT CATTTGTCTA TTATCTTTAC       1140

TTGAGTTAAA CTCTCCGTTC TTCTGGTTAC TATCAATTAC ATTATTTGAA TTAGATTGTT       1200

TTTCCTCTTT GTTTTTTTCT TTTTCGTTTT TATCACTTAA ATTATTTGTT ACAATTTTGT       1260

AAAGCCCATT CTCCGTTACA ATATTGAAAT TACCATCGCT ATCACGTATA ACAGGTTCTT       1320

TCCCATTTGC ATTAGATTTG ATGAATGATA TATACTTACC GGATAAATTA TAAAATTGGT       1380

TATTTAAAAC GGTTATTTTA CCCTTTGAAT CCTCAATAAC AATTCCTTCT TTACCC         1436
```

(2) INFORMATION FOR SEQ ID NO: 328:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 646 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 328:

```
CCGGCAGACA GGAGAAGGTG TTAAATATCA ATCTCAAATG GTTCGTCAAT GGTTTCTGAT         60

ACGTATTTTC CGTCTTTCTT CCGTTGCTTG ACACACTCTG TGAGGAGATA TTCGATTTGC        120

CCATTGACTG AACGAAAGTC GTCTTCTGCC CATGATGCGA GTGCAGCGTA TAACTTTGTT        180
```

1353

GAGAGTCGAA GGGGGATCTG CTTTTTTTTA GCTTCAGCCA TCTTTAGTAA AGGCTTCCTG   240

TGTTGACAAT TGGTTGTGCA TCATGATTGC CACAAAGAAC GACAAGGAGA TTTGAAACCA   300

TGGCAGCTTT TCGTTCTTCG TCAAGTTCTA CCAATTCCCC TTCATTGAGC CGTTCTAGTG   360

CCATTTCAAC CATTCCTACA GCACCATCTA CAATCATCTT CCGTGCATCA ATAATGGCAG   420

ATGCTTGTTG GCGTTGAAGC ATAACGGCAG CAATTTCTGG AGCATAAGCT AGGTAAGTGA   480

TACGTGCTTC AAGGATTTCC AAGCCAGCAT CCTCAACACG ACTTTGGATT TCTTCACGAA   540

TACGGGTAGC AACAATTTCG CTAGAGCCAC GGAGACTACC TTCATCTGCG TGCCCATCAC   600

CCGGAGTATC CACATTAGGA GACACATCGT AAGGATAGAT GCGGAC   646

(2) INFORMATION FOR SEQ ID NO: 329:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1653 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 329:

GTTGCAGGTG CAGTAGGTGT TACTTCAGAT ACATTTGAAC GTGCAGAGGC TCTTTTTGAG   60

GCAGGAGCGG ATGCGATTGT TATTGATACT GCACATGGTC ATTCTGCAGG TGTCTTGCGT   120

AAAATTGCCG AGATTCGTGC TCATTTCCCA GATCGGACTT TGATTGCTGG AAATATTGCT   180

ACTGCTGAAG GTGCACGTGC CCTTTATGAA GCGGGTGTAG ACGTTGTTAA GGTTGGTATT   240

GGACCAGGTT CTATCTGTAC TACTCGTGTG ATTGCTGGTG TTGGTGTTCC GCAAGTAACA   300

GCTATCTACG ATGCTGCAGC TGTTGCGCGC GAATATGGTA AAACGATTAT TGCTGACGGT   360

GGGATCAAGT ATTCTGGAGA TATTGTAAAA GCACTTGCTG CAGGTGGAAA TGCTGTTATG   420

CTTGGATCTA TGTTTGCTGG AACTGATGAA GCTCCAGGCG AAACTGAAAT CTTCCAAGGA   480

CGTAAATTCA AGACTTACCG TGGTATGGGA TCAATTGCTG CTATGAAGAA AGGTTCAAGC   540

GACCGTTATT TCCAAGGTTC TGTCAATGAA GCAAACAAGC TTGTTCCAGA AGGAATTGAA   600

GGTCGTGTTG CTTATAAAGG AGCGGCAGCT GATATTGTTT TCCAAATGAT TGGTGGTATT   660

CGCTCTGGTA TGGGTTACTG TGGTGCAGCT AACCTTAAAG AACTACACGA TAATGCTCAA   720

TTTATTGAAA TGTCTGGTGC TGGTTTGAAA GAAAGCCATC CTCATGATGT GCAAATTACT   780

AATGAGGCAC CAAATTATTC TATGTAAAAA ACAATGAAAA GAACTCCAGT GAAAACAGGA   840

GTTCTTTTAC AATGTTGTCA ATTTCCATTT ACAGCAGCTT TACCATCCTG AATAGTGAAG   900

1354

```
ATACTTAGAT TTTCTGGCAG ATTTTGAAGA TGGTCTAAGC TTGTTGTTGT GATAAAGGTT      960

TGGATTGATT GAGAAATCGT TTCTAATAAT TTTAACTGTC TAGTGTTGTC AAGTTCACTC     1020

ATCACATCGT CAAGCAGTAA TATAGGAGAT TCTGTGGTAA TGCTTTCCAT TAATTCGATT     1080

TCTGCTAATT TTATCGAGAG GACGAGACTA CGATGTTGAC CTTGGCTTCC GAAACTAGCA     1140

TCCATCCCAT TTATATAAAA AGAAATGTCA TCTCGATGAG GACCGACACC AGTATTCTTT     1200

TTAAATAAAT CTCTGGATCT ACTTTTTTCT AAAGCAATTT TGAAAGATTC GGATAAGTTT     1260

TGTTTGTCAG TTATATTGAC AGAAGATTGA TAGGATATTG ACAACTCTTC GATCTGATTA     1320

GAGAGTTCAA AATGTTTCTT ACGCCCAAAT GATTCTAGTT TTTTTATGAA ATCTAAGCGG     1380

TGATTCATTA CACGACATCC ATAATCAACT AGCTGATCAT CTAACACAGA AAGGAATGTT     1440

TCATCTATTT TTTGAGCTGA TTTTAGGTAA GTGTTTCTTT GCTTTAGGAT GTGGTTATAA     1500

TTGGTTAAGT CAGATAAATA GATTGGCTTA ATTTGCCCAA GTTCCATATC AATGAATTTT     1560

CGTCGAATCG AAGGTGCTCC TTTAATTAGT TGTAAATCTT CAGGAGCAAA TAAGACAACA     1620

TTCATGTGTC CTACATAATC TGAAAGGCGT GCC                                 1653
```

(2) INFORMATION FOR SEQ ID NO: 330:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1340 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 330:

```
GAAACACTGT ATTTCAAAGC ATTTTTTGTT AGTTTAAAAT TACTCCCATT CTTCTTTTCC       60

AAACGTACAA TATATCCAAA ACCATTCAAA ATACTAGATT CTATTTTTTA TAATATCACT      120

AAATCCACCT AATTATAGGA CGTTTTCAGA TTTTTAGTCC CAGTCCCAGT ACCGGAGAAA      180

TATTGTTTTA ATATAATATC TCTTTTTGTC TTCTAAGCTC TTAAAAGCAA AAGAACAAGT      240

AAAGAGTCAA GACAAGGATA AAAAGTCCAT ATTAGGGCAA ATAAAAAGCT TTAAGACAGA      300

TGACAAATCT AAGTCAAATA AGAAAGACCA TAGCAAAGGT GCAGAGAGAT AAATATTGGC      360

GGTCTTCGGA CTGCCTTTAT TTTTTTATCC ATTTTTCAAA TCAAATTTAT TCAGACTATA      420

TATGCACATA TACACTTAAA TTCATATAAA AACATGGCTT GTAAAAAATT ACTTTAATCA      480

CAATAATCGC ATTTAAAATT GTGATGTTTG CAAGCTAAAT TACGGACTTC ACTTGGAAGT      540

TTTCCCTTGT ATCTTTTATA ATAGATAGAA AATTTGCTGG CAGATGAATA TCCAACAGAT      600

TCTGCTATCT CTTTTATAGG TAGTTCAGTG TTTAAAAGAA GAGTTTCAGC TACATTCATT      660
```

1355

CTTTTTCTTT GAGTGTACTC TGTAATGCTT TGACAATATT TTTCCTTAAA TAAATTTTTT   720

AATTTAGTAC CACTCATTTT AGATATTTTT TCAAGCGTGC CTTGATTTAC ATTCGTTGCA   780

AAATGATCAT .CTAAGAATCT TGCTACATCT TCAAGTGCTT TATCATCATC AATTTCAATT   840

TTATATTTTT TTCTATTTAA GTATGTGTCA ATTACTATAC TTATCCATTC ATTTGCCTTT   900

GCTTTAAAGA AAAAATCAGC GGCAGGAGCG TCCATCTTAC AATTTAATAT TTCCATTGCC   960

ACTCTTTCTA AGGCCTTTGT AAGTATTATT TGATTCGGTT GAAGCAAGGT TGAATAAAAA   1020

GATTCTGGAT TAATGTTAAT AGATGCTAAA TGTTTTTCTA TTAGCTCTTT TTTAAAACCm   1080

ATGGAAACAG CAAGATAACA ACAATTCTCG TGTAATAAAA AAACAAAATT ATCTTTTATA   1140

TTATCAAAAT CAAAAGTACA TAGAGAGTTT GCGGTAATAG TTTGATACGG ATTAAACTTT   1200

TCTCCGTTTG CACTGACAAT GTAACTTGAA TAAATTGAAA CATAGTCTGA CATACTATAA   1260

GTGCTATTTT GAACTACTTC CTCTTTGATA TAAAAATCAT GTATATCGAT AATGAAGATG   1320

CCTCCTTCAT AAAACCGGTA   1340

(2) INFORMATION FOR SEQ ID NO: 331:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 607 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 331:

TATGTTCGTG ATGAGTTTTT AAGTAGGAAA AACGTGCTAA CCTCTCAGAT TTTGGAACTT   60

GTAAAAGAAA CTCTTTTTTC ACCCGTAGTA GTTGATAATG GGTTTGATCC GGCCTTATTT   120

GAAATTGAGA AAAAACAATT GCTAGCAAGT TTAGCAGCTG ATATGGATGA TTCTTTTTAT   180

TTTGCACATA AAGAATTGGA TAAATTGTTT TTTCATGATG AACGTCTTCA ATTGGAATAT   240

AGTGATTTAC GAAATCGTAT TTTAGCTGAA ACTCCACAAA GTTCTTATTC TTGTTTCCAA   300

GAATTTTTAG CCAATGATCG AATAGATTTC TTTTTCCTAG GTGATTTTAA TGAGGTTGAA   360

ATTCAAAATG TATTAGAATC ATTTGGCTTT AAAGGTCGAA AAGGAGATGT GAAGGTTCAG   420

TATTGTCAAC CTTATTCTAA TATCCTTCAG GAAGGTATGG TTCGGAAAAA TGTGGGACAA   480

TCCATTTTGG AATTAGGTTA TCATTACTGT TCTAAATATG GTGATGAGCA ACATTTACCC   540

ATGGATTGAA TGAATGGTTT ACTTGGTGGA TTTGCTCACT CTAAGCTCTT TACAAATGTC   600

CGGGAAA   607

1356
(2) INFORMATION FOR SEQ ID NO: 332:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 900 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 332:

```
TTAAAATACC GAATTTTGTT TTGTCCTCTA TTTCAACATT GTGAATCGCC TCAGGCAGAG        60

AACCGATACT AAAGATATAA CCAAAATAGT TGTCATTTGC TTTACCGATA TCAATCTTAT       120

TGGTTAAATC AAAATCCAGT TCGTCAATTG CGCCATCGAT GTCTTGATTG ATTTCCAAAA       180

GTTTTGTAAT GAGGTTACCC GTACCGCCTG GGATAATCCC TAACTTAGGA ATGTAGTCTC       240

TCTCATCAAT ACCTGAAATG ACTTCATTGA CAGTTCCATC TCCACCAAAC ACAACCACTG       300

CATCATACTG CTCACGAGAA GCTTCTTCAG CAAAATGTGT TGCATCCAGC GCTTTTTCGG       360

TAATTTTGGT TTCAACATAT TCAAAGTATT CTTTTGCTTT ATTCTCCAGC TTTTCTTTGT       420

AATCCAAAGC CTTCTCGCCA CCAGAAGTAG GGTTGATAAT TACCATTGCT TTTTTCATTG       480

ATTTTATCCT TAATTTTAAA CAGAAATGTT TACATTTCGT CGTATGCAAG TAAATGTAAT       540

CCTATTATAC AATGAAAATA CAGAAAAGAG AAATCTGACG TACTGGAGAT TAATACGCTT       600

TTATTCTATT TTCCCATCGC CTAACTACAT CCTTTAAGGG TTCATCCAAG TAAGAATAGG       660

CCTTATCCTT GATCCAATCA GGAATACCGT AAGCTGCCTC TGCTAwGCTA CAAGTGATTG       720

CTGCGAGAGT ATCACTGTCG CCACCAAGTG AGATGGCATT TCTTATCGCA TCTTCGAAGT       780

CTCTACTTTC AAGAAAGGCG ATAATGGCTT GAGGGACAGT TTCCTGACAT GTTTCGTTAA       840

AACGATAGTT AGGACGGATT TCATCTAAAG TTTGAGATAG ATTGTAATCG TATTCTTTTT       900
```

(2) INFORMATION FOR SEQ ID NO: 333:

    .(i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 533 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 333:

```
CCTTTCTGGC ACACTGGTCT TGGAATACGG CAAAACCTCT GAAAATATCT ATGCTGGAAT        60

GGACGAGGAA TACCGTCGTT ATCAGCCTGC CATCATCACT TGGTACGAAA CAGCCAAACA       120

TGCTTTTGAT CGCGGACAGA TTGGCAAAAT ATGGGTGGAA TCGAAAACGA CCTCAAGGGC       180
```

1357

GGTCTCTACA GCTTTAAATC CAAGTTCAAT CCGACCATTG AGGAATTCGC TGGTGAGTTC   240

AACCTGCCAA CTAATCCTCT TTACCACCTC TCCAATCTGG CCTACACTCT CAGAAAGAAA   300

CTGCGCAGaA GcATTAACAG AAAGGAAGCC TATGACCTTT AAACTTCTCA GCCAAGAAGA   360

ATTCATCCAG CATACCTCAG CTAGATCCCA ACGCTCTTTT ATGCAGACCG TAGAAATGGC   420

AGAGCTGCTG AGCAAGCGTG GCTTCAGTAC CCAGTATGTC GGCTACACTG ACCCACAAGG   480

GAAGGTAGTG GTGTCAGCTG TCCTCTACAG CATGCCTATG ACTGGTGGCC TTC   533

(2) INFORMATION FOR SEQ ID NO: 334:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 544 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 334:

CCAGCAAACT AGGAAGCTAG CCGTAGTTGC TCAAAGCACA GCTTTGAGGT TGTAGATAAG   60

ACTGACGAAG TCATGTACAA AACACTGTTT TGAGGTTGCA GATAGAACTG ACGAAGTCAC   120

TCAAAACACT GTTTTGAGGT TGCAGATAGA ACTGACGAAG TCACTCAAAA CACTGTTTTG   180

AGGTTGCAGA TAGAACTGAC GAAGTCAnnA ACCACACCTA CGGCAAAGTG AATCTGAAGT   240

GGTTTGAAGA GAGTACAACT TGTCTTTTAG AAAAGGAGCC TATAATGAAA GTCTTTCAGC   300

ATGTAAATAT CGTGACTTGT GATCAAGATT TCCATGTTTA TCTTGATGGA ATCTTAGCAG   360

TCAAGGATTC TCAAATCGTC TATGTCGGTC AAGATAAGCC AGCGTTTTTA GAGCAAGCTG   420

AGCAGATTAT AGACTATCAG GGAGCTTGGA TTATGCCTGG TTTGGTCAAT TGTCACACCC   480

ATTCTGCAAT GACAGGTCTG AGAGGGATCC GAGATGACAG CAATCTCCAT GAATGGCTCA   540

ATGA   544

(2) INFORMATION FOR SEQ ID NO: 335:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 349 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 335:

CCAGGAACTC AAATGTAAGT AGGGGTTCCT TTTTTGTATA TTTTTCAAAT AACGCCTCTA   60

1358

```
CACTATTTGT AGCAAATTCA CCAACTACAG TTGTATCTTA GTTAAAATAA GTTAGAATAT        120

GTAAGTGAGT ACCAGATATA CCAAGACATC GTCACCATCT AAGGTATATT CAAAATACAA        180

AAGTTGACCA ACTAGATTTC TGAATATCCT TATATATCCA TTCTTAAAAT TGGTTTAAAT        240

AGCGTAGTCT TTTAAACTAG TTTTGAGAAT CCAAAAAATC TTCCTACATA TGTAAGAAGA        300

TTTTTTAGTT CAGAATGATT AGaTTTAGCT AATGGATACC TATCCTACC                    349
```

(2) INFORMATION FOR SEQ ID NO: 336:

   (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 1206 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 336:

```
CTCCGATAAC CACACCAGCA ATGGAAATAA TTCCATCGTT AGCATCAAGA ACACCCGCAC        60

GCAGGATATT TAAACGACCT GCAAAATTTG AATCAATTTC GTGATTTGTT TCTGACGCTA        120

AATTTCAAGT TCAAGTTAGC CATCAAGAAG TCTTCTCTGG GTGACTTGTA GTCCAAGCAT        180

TTTTTAGGAT AGTTGTTAAT CCACTTTTCG ATGAATGCGA CTTCTTTGGG AGTCATTTTC        240

TTGGTTCCCT TAGGTAACCA TCTACGAATG AGCCTGTTGT GATTCTCATT AGTTCCCGGG        300

ATCCTCTAGA GTCGACCTGC AGGCATGCAA GCTTGGCACT GGCCGTCGTT TTACAACGTC        360

GATGACTGGG GAAAACCCTG GCGTTACCCA ACTTAATCGC CTTGCAGCAC ATCCCCCTTT        420

CGCCAGCTGG CGTAATAGCG AAGAGGCCCG CACCGATCGC CCTTCCCAAC AGTTGCGCAG        480

CCTGAATGGC GAATGGGGCC TGATGCGGTA TTTTCTCCTT ACGCATCTGT GCGGTATTTC        540

ACACCGCATA TGGTGCACTC TCAGTACAAT CTGCTCTGAT GCCGCATAGT TAAGCCAGCC        600

CCGACACCCG CCAACACCCG CTGACGCGCC CTGACGGGCT TGTCTGCTCC CGGCATCCGC        660

TTACAGACAA GCTGTGACCG TCTCCGGGAG CTGCATGTGT CAGAAGTTTT CACCGTCATC        720

ACCGAAACGC GCGAAACGAA AGGGCCTCGT GATACGCCTA TTTTTATAGG TTAATGTCAT        780

GATAAGGATG GTTTCTTAGA CGTCAAGTGG CACTTATCGG GGAAATGTGC GCCGAGACCC        840

TATTTGTTTA TTTGTCTAAA TACATTCAAA TATGTATCCG CTCGTGAGAA AATAAACCTG        900

ATAAATGCGT CAATAATATT GAAAAATGAA GAGTATGAGT ATTCTACATT TCCGTGTCGC        960

CCTTATACCC TTTTTTGCGG CATGTTGCCT TCCTGTTTTT GCTCACCCAG AAAACGCTGG        1020

TGAAAGTTTA AGATGCTGAA AAATCATTTG GGTGCACAAC TGGGGTTACA TCCAACTGGA        1080

ATCTCCAnCA GCAGTTAAGA TCCTCTGACA GTTGTACACG CCGCAAGAAC TATTCCCGAT        1140
```

1359

GAATGAGCAA CTTTTAAAAG TCCTGCGAAT GTTGGGGCGG TAATAATCCC CGTGTTGTAG   1200

GCCCGG   1206

(2) INFORMATION FOR SEQ ID NO: 337:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 813 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 337:

CTGCTCAACT CAGACAGTCA AATTTCTGAC TTTACCAAAA GAACCATCAA AAAAGTTGCT   60

GAAAAAGGCC ATCAGGTTAT TATTACGACA GGTCGCCCTT ACCGTATGTC AAAAGATTTT   120

TACCGTGAAC TGGGCTTAGA CACTCCTATG ATTAACTTCA ACGGATCCCT TACTCATTTA   180

CCAGACCAAG TTTGGGATTT TGAAAAGTGT TTGACTGTAG ACAAAAAATA TCTGCTAGAT   240

ATGGTTCAAC GTTCAGAGGA CATTCAAGCC GATTTTATCG CTGGAGAATA TCGTAAAAAA   300

TTCTACATTA CAAATCCCAA TGAAGAAATT GCCAATCCCA AACTATTTGG TGTAGAAGCT   360

TTCCAGCCTG AAGATCAATT CCAGCCTGAA TTGGTGACCA AGGACCCTAA CTGTATCCTC   420

TTGCAGACTA GAGCCAGTGA CAAATATTCC TTGGCAAAAG AAATGAACGC CTTCTACCAG   480

CATCAACTTT CTATCAATAC CTGGGGAGGT CCGCTCAATA TCCTTGAATG TACCCCAAAA   540

GGTGTCAACA AGGCCTTTGC TTTGGACTAC TTGCTCAAGA TAATGAATCG TGACAAAAAA   600

GATTTGATTG CCTTTGGAGA TGAACACAAT GATACCGAAA TGCTCGCTTT TGCTGGGAAG   660

GGTTATGCCA TGAAAAATGC CAATCCAGAG CTACTCCCTT ATGCAGATGA GCAAATTTCC   720

CTTACCAACG ACCAAGATGG GGTTGCCAAA ACCCTACAAG ACTTATTCTT ATAACCTATA   780

CTGATACTCA ATGAGGGGCA AAGAGCGAAC TTA   813

(2) INFORMATION FOR SEQ ID NO: 338:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 683 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 338:

CCTAGATAAA TGATATAATT CTATTATTGT TCGTAAAAAT TAAAAGGAGA TTGATGATGG   60

1360

```
ACAAATTATT  TAAACTAAAA  GAGAACGGTA  CAGACGTTCG  TACAGAGGTT  CTCGCTGGTT        120

TAACAACTTT  CTTTGCAATG  AGCTATATTC  TCTTTGTAAA  CCCACAAATA  CTTTCACAAA        180

CAGGAATGCC  TGCTCAGGGC  GTCTTCCTAG  CGACGATTAT  TGGTGCAGTA  GCGGGTACCT        240

TGATGATGGC  TTTTTATGCT  AACTTACCTT  ATGCCCAAGC  GCCAGGTATG  GGACTCAATG        300

CCTTCTTTAC  CTTTACAGTT  GTATTCGGGC  TTGGTTATTC  TTGGCAAGAA  GCCCTAGCTA        360

TGGTCTTCAT  CTGTGGGATT  ATTTCATTGA  TTATTACCTT  GACAAATGTT  CGTAAAATGA        420

TCATTGAATC  GATTCCCAAT  GCTCTTCGCT  CAGCTATTTC  AGCTGGTATC  GGTGTCTTCC        480

TTGCCTATGT  AGGGATTAAG  AATGCTGGAC  TTTTGAAATT  CACGATTGAT  CCAGGCAACT        540

ATACTGTTGT  AGGAGAAGGG  GCTGACAAAG  CTCAAGCAAC  GATTGCAGCA  AACTCTTCAG        600

CAGTTCCAGG  ATTGGTCAGC  TTTAATAATC  CAGCTGTTTT  AGTGGCTCTT  GCAGGACTTG        660

CCATTACTAT  CTTCTTTGTC  ATC                                                   683
```

(2) INFORMATION FOR SEQ ID NO: 339:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 852 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339:

```
CTACTTTACA  TGGAAGTAGT  CACTGAATTC  CAGTTAGAAA  TTACTTTGTA  ACTACGTTTT         60

GAGGAGGAGT  AAAATGCTTT  CCTACGTTCG  ATATTACCCA  CTAGCGATAG  CTAAATTAAT        120

GTGTCTGTGC  TCTCCTAAAA  TCTGCTGATT  TATTACTGAC  TAATACAGGA  GGTTTTTTTT        180

ATGgACAGAC  AATCATATCT  GCTATTGGTG  TTTATATTTC  CACCAGTATC  GATTATTTAA        240

TTATTTTAAT  TATTTTATTT  GCACAGCTAT  CACAGAATAA  ACAGAAATGG  CATATTTATG        300

CGGGGCAATA  TCTAGGCACA  GGCTTACTTG  TAGGGGCGAG  TTTAGTTGCT  GCTTATGTCG        360

TTAATTTCGT  GCCTGAAGAA  TGGATGGTTG  GATTGCTTGG  TTTAATCCCT  ATCTATTTAG        420

GGATTCGCTT  TGCAATTGTT  GGAGAAGATG  CGGAAGAAGA  AGAGGAAGAA  ATTATTGAAA        480

GATTAGAACA  AAGCAAGGCA  AATCAACTGT  TTTGGACAGT  TACATTGCTG  ACAATTGCGT        540

CTGGCGGAGA  TAATTTAGGT  ATCTATATAC  CTTATTTTGC  TTCGTTAGAT  TGGTCACAGA        600

CCCTCGTGGC  CTTGCTTGTG  TTTGTAATCG  GCATAATTAT  CTTTTGCGAG  ATTAGTCGGG        660

TGTTATCCTC  TATTCCGTTA  ATATTCGAGA  CAATTGAAAA  ATACGAGCGA  ATCATTGTGC        720

CCTTAGTATT  CATTCTACTT  GGACTATACA  TCATGTATGA  AAATGGCACG  ATAGAGACTT        780
```

1361

TTCTGATCGT GTAGATTTTT TTGTTTCACT AGGGATTTAG CCCGAGCTCA AATCAGCTCT   840

CTGATTTTCA GA   852

(2) INFORMATION FOR SEQ ID NO: 340:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 754 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 340:

CCGCACAAAA GCGCATAGTA TCAAGATTCT ATAAAGCCTT GATACTATGC CTTTTTAATG   60

GATAAATAGT TAGTCTTTTT TAAAGACCGG ATCTTTCAAA CTCTGCATAC TGGCATTGAT   120

CACCGCGCCT AGGATAACAA TTTTAGCAAT CAAGATAAAC CAAAACATCA TAACAACAAG   180

AAGAACGGAA CCTAAAATTC GGACATCCAC CAAATGATGG ACATAGTAAT TGAGATAACT   240

AGAGAACAGA GTTAGTAAAC CTAAAATCAC TAAGAGAACA AAGGCACTGC CTGGTAGGGT   300

ATAGCTAATT TTCCTGTTAG ATAGATTGGG AAGAAAATAA TAAAGCATGA CCAAGATAGC   360

AAAGAGGAGG GCGTAAATCA GAGGACCTGC CAACCCTTGT AAAGCCTGAT AGATAATGCC   420

ATCTTTTGTC CAATAATGAG CAAGTAAAGC CAAAATCATC TGACCAAATA AGATCAAAAA   480

CAAGGCAAAC GCAAAGAGGA GCTGCAACCA AAACTGACTA GGAGACTTAG CATCTGATGG   540

GAAATAAGTC CACGACTCTT TTCGACGCCA TAAGCCTTGT TAAAAGCTTT TTGCAAGAAA   600

TTCATAGATT TTGAAAAACT CCATAACGCC GATAAAACAG AAAAACTCAA TAAACCTGTT   660

GAAGGTTGCG TCAAGACTTC TCTGGCTATT TTTTCCACAC CTTCATAGAG GCTTGGGGGG   720

CAGACGTCTT TCATAAAGCC CAAAAATTCT CCCA   754

(2) INFORMATION FOR SEQ ID NO: 341:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 707 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341:

GGGGATAACT CTAGGAGTAC CGCTATTACT CGACTTAATG AGTGCACAAG AAGTCAGGAT   60

TTTTATGCAG GTTGGGCGCT TCATCAGACA GGGAAGATTT ACAGCGACTA TTATGGAAGT   120

1362

```
CAAGGTTTGC TTTATTATTT GCTGACTTAC GTGAGTCAGG GCGGATTTTT CTTTGCCATC        180

TTTGAGTGGT TAGCCTTGGT AGCAGGAGGA TTTTTCCTTT TTAGATCAGC GGACACCTTG        240

ACAGAGCAAG GAGACCAAGC TGGACATCTG GTGACTATTT TTTACATGCT AGTTACAGGT        300

CTTGCTTTTG GTGGAGGCTA TGCGACTCTT TTAGCGCTTC CTTTCTTATT CGCAGCCTTT        360

AGTTTAGTTG CGGCTTACCT AAGCAATCCA AGCCATGATA AGGGATTTGT ACGGATTGGG        420

CTAGCTTTGG CAGGCGGATT TTTCTTTGCT CCCTTATCAT CGCTCCTGTT TATTGCTGTA        480

GTGAGTTTAG GCTTGTTGGT CTTTAACCTT GGGCATAGAC GCTTTGCGCA TGGGTTTTAT        540

CAGTTTCTTG CAGTGGCTTT AGGTTTTTCA CTTGTCTTTT ATCCAACTGC CTACTATAGT        600

GCTGCAACAG GAAGTTTTGG GGATGCGwTT AGTGGTATTC GTTATCCTAT TGACAGTATT        660

CGCTTTGATT TTACTTCTAA AATTTTAGAG AATATGTTTT TTTAAGG                      707
```

(2) INFORMATION FOR SEQ ID NO: 342:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 762 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 342:

```
GGATTTTGAA AAACCATACC GATTTGACGA CGTATATTCC AAACATTTTC CTCAGTCAAA         60

CGTTGGCCAT CAATTACAAT CTCTCCGGAT TCTGCTTCCA GTAAGCCATC AATTAATCGA        120

ACCGTCGTTG ATTTACCACT ACCATTATGC CCTACAATCG AAAGCCATTC TCCACGTTTC        180

ACGTGAAAgT AATATCCTTC ACATCGTAGT AGTTCTGATT TTCTTTATAG CGAAAAGAAA        240

GATTTTTTAC ATCAATTATT GATTTCATTT CGAACCAAAT GTCCCTTTAA ATACATAGGC        300

ACTACCCTTG AAATAGTCAT AGCCAGAGTA GATAGTGAAA AATAAGGCTA CATAAAGTAG        360

AACTTGACCA AGCAAAGTCC AATGTAATAG CAAGAAAATA ATGGCAAACA TCTGACTAAA        420

AGTTTTAATT TTTCCAGGCA TTGCTGCTGC TAAAATTGTT CCACCAGTTT CAACCAATAA        480

AAGCCTTAAA CCTGTCACAG CTAACTCACG ACAGATAATC ACTGCAACAA TCCAAGCCGG        540

AGCCATACCT AACTCAATCA ACATAATAAA AGCCGACATA ACTAGTAACT TATCCGCCAT        600

AGGATCTGCA AATTTACCAA AATTACTGAC CACATTCCAT TTACGAGCTA AATATCCATC        660

TAAATAGTCG GTAATACTGG CAACAGCAAA GATAATAGCT GCAACTATAT GACTCTCTAT        720

CGAATTTCCT ATCGTTAAAA TAAAGATAAA AATAGGTATA AA                          762
```

(2) INFORMATION FOR SEQ ID NO: 343:

1363

(i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 482 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 343:

CTTTTGATAC ACTTAAACTA TGAATACAAA TCTCAAGCCC AAACTTCAGC GTTTTGCTTC   60

TGCGACTGCC TTTGCCTGTC CTATCTGTCA AGAAAATCTG ACTCTGTTAG AGACTAATTT   120

CAAGTGCTGC AACCGTCATT CTTTTGACTT GGCGAAATTT GGCTATGTCA ATCTAGTCCC   180

TCAAATCAAG CAATCTGCTA ACTACGACAA GGAAAATTTT CAAAACCGTC AACAAATCCT   240

AGAAGCCGGC TTTTACCAAG CTATCTTAGA TGCTGTATCT GACTTGCTTG CAAGCTCAAA   300

AACTACCACA ACAATTTTGG ATATCGGTTG TGGTGAAGGA TTCTATTCTC GCAAACTACA   360

AGAAAGTCAC TCTGAAAAAA CTTTCTATGC CTTTGACATC TCCAAAGATT CAGTCCAAAT   420

CGCCGGCTAAA AGTGAACCCA ACTGGGCAGT CAATTGGTTC GTTGGCGACT TGGCACGACT   480

TC   482

(2) INFORMATION FOR SEQ ID NO: 344:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 520 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: double
           (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 344:

TTTATTTTTA TAAAGTCAAT ACCTGTCTTT ACTTTTTCTT AAAAAAAGTT TATTATGTTC   60

TTTAAGGAGG TGTAAAACAT GAAAATAAAT AATAAACTCG TTGGAGAACG TATTCAAAAT   120

ATCCGTTTAA GCCATGGCGA CTCTATGGAA AAATTTGGAG AAAAATTTAA TACTAGCAAA   180

GGTACAGTTA ACAACTGGGA AAAAGGTCGC AATTTACCAA ATAAAGAAAA CCTACTAAAA   240

ATTGCATCTA TTGGAAAAAT GAGTGTTGAA GAGTTACTCT ACGGCGATTA CAATACTTAT   300

CTACACTTAA AGATTATGGA TTTAGCTCCT GAATGTATAA AAAATTATGA TGAGTATAAC   360

TCTTTACACG ATGATATAAC AAATAAAGCG TTACAGATCG CTCAAAATAC CATTTCTAAG   420

ATTGATTATC AAATTTCAGA CGAAACGATC AAAAAATTTA TTGATTTAGC TATCGAACAA   480

TCGAGAGATT TGCAAGGAAA TTTGTTGAAA AATAACGGGT   520

1364
(2) INFORMATION FOR SEQ ID NO: 345:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1003 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 345:

GCATCAAATC CGCCATCAAA GAAGTTCTCT GGATTTACCA AGACCAGTCA AATAGCTTAG   60

AAGTGCTTAA TGACAAGTAC AATGTTCACT ACTGGAATGA CTGGGAAGTT GGAGACACGG   120

GAACCATTGG TGAGCGCTAT GGTGCCGTTG TTAAGAAACA CGACATTATC AATAAGCTTC   180

TCAAACAGTT GGAAACCAAT CCTTGGAACC GCCGCAATAT TATTTCGCTC TGGGATTACC   240

AAGCTTTCGA AGAAACAGAT GGGCTGCTCC CGTGCGCCTT TCAGACCATG TTTGATGTTC   300

GGCGTGTTGA TGGGGAAATC TATCTGGATG CGACCTTGAC CCAGCGCTCC AATGATATGC   360

TGGTGGCCCA CCACATCAAC GCTATGCAGT ATGTGGCTTT GCAGATGATG ATTGCCAAAC   420

ATTTTGGCTG GAAGGTTGGG AAGTTCTTCT ACTTCATCAA CAACCTCCAT ATCTATGATA   480

ATCAATTTGA ACAAGCTCAG GAATTGCTCC GTCGGGAgCC GTCAAACTGC CAACCACGCT   540

TGGTTTTAAA TGTTCCTGAT GGGACTAATT TCTTTGATAT CAAAGCAGAA GATTTTGAGT   600

TGGTGGATTA TGACCCTGTT AAGCCACAGT TGAAGTTTGA CCTAGCTATT TAAAAGAATA   660

GAAAAAAGAA GTTGAGAATA ATCCCAACTT CTTTTGTTTC TTAACGTGAT ACGCGGCGAC   720

GAGCTGCTTT TTTACGGTTT TCTTCGATGA AAGCTGCTTT TTGCTCTTCT GGTTCGATTA   780

CTTTCTTTTT AAATGCGTAT ACTGCACCTG CAACGGCAGC GACAGTTCCT GCGACACCTG   840

TTACAAGACC TTTAGCGAAT CCTTTAGCCA TGAGTCTTCC TCCTTTATAT TCTCAATCAG   900

CCAGCCTCCT CAAGAGGTCA CATTTTTCTG ACTGACCTTT TTGTGTTATA ATAATAGTAA   960

CGAAAAAATG GGAATTTTTC AAGGAAAAAA GATGAGAACA AAA   1003

(2) INFORMATION FOR SEQ ID NO: 346:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 750 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 346:

CCGCACGTAC TATTCCAGAT GCCGAGGAAG TGGACCTCAT CCTCGTTGGC GCAACTGGTC   60

1365

TCAACGCCTT TGAACGCCTC TTGGTCGGCT CTTCATCTGA ATACATACTC CGCCATGCTA   120

AGGTCGATTT GCTGGTTGTG AGAGAACAAG AAAAAACCTT ATAATCACAA AGAAAAGGAG   180

CCCCTAGCTC CTTTTTGTTT ACGATTTATT TCTCTCTTTA TGGCGTTCGT AAGCCTTGAG   240

CTGGCGCTGC AGTTCCTTTT TAATAGCAGG TTCTGGAGCA TATTTTTCTT CCCAATTATC   300

TGGTTTTAAG ATTTTATGGG TCACTGGATC AAAATGAGCC TTGCCATCTG GAAAAATTTT   360

CCCCATATTG GCCTGATGGA CAATATCAAA AATACGTTCT GGGTCCACCC CCATCAAGAC   420

AAAACTGCCG TAGGTGAAGT AAAGCGTGTC AATCAAGGCA TCCACTTGCC CTATCAAATC   480

TTGCTGAGCA GGTGTCTTCT TGGCTACTTT ATCTGCTGCC TTATCAAGGG CCTGATGAAG   540

TTGCGATACA GCTTGACCAA AATCTTCTTC AGAAGGACTG GCTGCTCGAA CAAACTCCAC   600

CAATTCTTCT ATTTTAAAAC CAGCCCTATG GGTTGCACCC TCTAAATCCC AAGCTCGAGG   660

TTCTTCTTGG GTTCGTTCAT CCATCATGTG GTGGAAAGTC TTGACCTTAT TGAAATGATA   720

GTCACGGCTG ACAAAGACTT TTTCTGAAGA   750

(2) INFORMATION FOR SEQ ID NO: 347:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 596 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 347:

CGCAACATAC GGATAACCTC CAAAGAATAT TTTTATATTA TAGCAAAGCT TTAAATTGAA   60

TGTTAGAGTC TTGTTCAAAA CAATCATCAA AACCACGTGG ATGATGGTAT TCTACTAAGT   120

GTTGATCTTG AGGATAAGTG TACTTACCGC CAACTTCCCA GATAAATGGA TGGAAATCGT   180

ATTGCAAGCG ATCTTTTCGC ATTTTCCAAA GTTCTAGAAT CTCATTAGTA GAAGCCATGA   240

AGTTAGACCA GATATCATAG TGAACTGGGA TAATGACTTT GGTACGCAGA TTTTCTGCCA   300

TACGAAGAAG GTCGATAGAT GTCAkTTTGT CTTGGATACC TACCGGATTT TCACCATAGT   360

TATTCAAAGC AACATCAATT TTAAAGTCTT TACCATGTTT TGCAAAATAG TTTGAGAAGT   420

GAGAATCTGC ACCATGATAG ATGGTTCCAC CTGGTGTTTC AAAGATATAG TTAACAGCCT   480

TTTGAGCCAT TTCTTCATCT GTAACAGCCA AGCCAGCAgT TCACCGCCTG TCTCATCAGC   540

ACCGTTCACT GGGAGAGTTA CCAAGCAAGT ACGGTCAAAT GATTCTACTG CATGAA   596

(2) INFORMATION FOR SEQ ID NO: 348:

1366

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 673 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 348:

CAGAGTCAAC AGCCTGAGTT GAAGGCAACT TTAGACACAG CAGTTACGAC AGCTGAATGA   60

GCTCCTCCAT CAGTTTTTTC TTTAATGAGT CCAGCTACAT CTTCAACTTC GAGGCCGTTA   120

ATCACAATGT CAGCGCCTAC TTCTTTTGCA AGGGCAAGTT TGTCATTGTT GATATCGACT   180

GCGATAACAT GAGCATTGAA TACTTTTTTA GCGTATTGAA CAGCGAGGTT ACCAAGTCCA   240

CCAGCACCGT AAAGAACAAC CCATTGGCCT GGTTCAACTT TTGCTTCTTT GATAGCTTTA   300

TAGGTTGTTA CTCCAGCACA TGTGATAGAA GAAGCTTGGG CTGGATCAAG TCCGTCAGGA   360

ACTTTGACAG CATAGTCAGC AGTTACGATA CATTGTTCAG CCATACCACC GTCTACTGAG   420

TAGCCAGCAT TTTTCACTGT ACGGCAAAGG GTTTCGCGAC CAGTTGTACA GTATTCGCAA   480

GTGCCACATC CTTCAAAGAA CCAAGCAACG CTGACGCGGT CACCGACTTT AAGGCTTTTC   540

ACATCTGGAG CAATCTCTTT AACGATACCG ATACCTTCGT GCCCAAGAAC ACGTCCTGGG   600

ACTTGACCAA AGTCACCATG AGCAACGTGG AGGTCGGTGT GGCAAACGCC CACAGTATTC   660

ACTTCTACAA GTG   673

(2) INFORMATION FOR SEQ ID NO: 349:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 198 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 349:

GTACCCTACA AATGCTTTAC AGTATGGGTT GAGGGTGGTC AATGGAACTA TGGAGTAGGT   60

TGGACAGGAA CTTTTGGATA TTCTGATTAC TTACATTCTA CTCGATATCA TACAGCAACT   120

GTTAGACATG GGGGTAGAAC CTCTAAGGAT TATGCAAAAC CTGAGGCATG GGCTAGAGCT   180

TCCCTCACCA AGATTCCG   198

(2) INFORMATION FOR SEQ ID NO: 350:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 891 base pairs
        (B) TYPE: nucleic acid

1367

        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:

GCTTCTTCTA TAGACAAAAA TATCATGGGT AAAATAATCA AGGCTATAGC TAGAAGGAGG   60

GACCAATCCA CTACTAATCC TAAGAACAAA ACACTCAAGA GAGCAGAAGA GAGAGGTTCA   120

CTGGCACTGA TAACGGCAAC CACCAAAGGA GAAACCAAGG ACACAGCCTT CATGGAAATG   180

AAAAAAGCAA AAGCCGTTCC AAAGAAAGCG ATAATGAGGC AAATCAAGAT ACTCCAAATA   240

TCAAGAGTAA AGGAAAGCTG ATAAACCGGC GAGAGGACAT TGCTAAACAA ACCTGCCAAA   300

ATCATCCCCC ACCCAACCGT AGGAACAAAA CCATAACGCT TAGCAAAAGG TTGGGGCAAG   360

ATAACATTAA ACATAACACC CATGGCACTC AGCAAACCTG TTATAAGAGC TAGCGGCGTC   420

ATGGATAACT GAGAGAGGTC TCCCTTTGTC GCCATCAAGC AAACACCCAG CATGGCAACC   480

AAAACATAGA AAACAGCGCT TTTTGACGCT CGTTTTTGAT AAACCAAGCG ATTGTAAAAG   540

AGGATAAAGA CAGGGCTAAT AAACTGTAAA ATAGTTGCTG TCGTAGCATT TGAGTATTCT   600

ACACAGAGAT AGAAAAAATA CTGAACTGAA AAAATCCCCA AAATAGCATA GGCTAAAAAG   660

GGCAGGTAAT TTTTCTTGTC TCGCCAAATA TCTAGCACTT GCGATTTTAA TTGTATTGCA   720

GACCAAATGA GTACAAGACT CCCTGCCAGT GTCAAACGCA TAGAGGTAAT CCAGCCCGAA   780

GACACCTGAT AATGAGTAAA GAAGTACTCT CCTAAAATTC CACAGATTCC CCATATTAAG   840

CCGGATAGGA GCGAATAAAT TTTTCCGTTA ACAATCTTTT TCTGATACTG A   891

(2) INFORMATION FOR SEQ ID NO: 351:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 325 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 351:

GAAAGCGTTC AATAGAACAT TGCTTTTTTA TTTTTAGAGT AAGCTAAGCG CTTCAGCATC   60

TGCGATGATG GTTACATCAG GGTGATTTTG GAGGCTACTT GCAGGTAGGT TCTCAGTCAC   120

TGGGCCAGAT ACTGTTCCGG CAATGGCTTC TGCTTTCGAC TCACCGTAAG CAAAAAGAAT   180

AATAGACTTG GCATCCAAAA TGTTTTTAAT CCCCATTGAA ATAGCTTGGG TTGGGACGTC   240

TTCAATCTTG GCAAAGAAGC GTGCATTGGC TTCGATAGTA GACTGGTCAA GTTCTACTAG   300

                                        1368
ATGCGTTTGA CTGTCAAATG GAGTG   325

(2) INFORMATION FOR SEQ ID NO: 352:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 344 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 352:

CAAGAGCAGT TTGATGATTT TTGATAAGCA TGCGAATTTA AAATACAAAT ATGGCAATCG   60

CAAGTTTTGG TGTAGAGGCT ATTATGTAGA TACGGTAGGC CGTAATCAGA AAGTGATAGC   120

TGAATATATT CAGAATCAAT TACAAGAAGA CAGAGTAGCA GACCTAGCTC ACGTTATTCG   180

AGTCAGTAGA TCCGTTTACT GGCGAAATAA ATAAGAGGAA GTAACGTnAA GTGCTTTAGC   240

ACCTGCTCGG GAAAGTGGTG CGCGAGGAAG CTATTTCAGG ATGCTTTGGC CCTGGCCGGT   300

AGAAGCGTTA TAGCCGCAGA CTACGACACT TCACACTGGT GGTT   344

(2) INFORMATION FOR SEQ ID NO: 353:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 692 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 353:

CCCTATCCCT GCTATTGGGG CTGCTCTCAT TGCTGCTTTG GCACAAATCA GTCTTCCAAT   60

TGGACCTGTT CCCTTCACTC TGCAAAACTT TGCAATCGGC TTGATTCTAC TGTCTTTAGA   120

CCGAGAGAGG CTGTACTTTC TGCTGGACTC TATCTTCTTC TAGGTGCTAT CGGTCTTCCT   180

GTCTTTGCAG GAGGTGGAGC TGGTTTTCAG GCTTTAGTTG GCCCTACTGC AGGCTATCTT   240

TGGTTTTATC TCGTTTACTC TGGACTTACT TCCTCTCTAA CCAACAGCAA GAGTGGTGTT   300

GTTAAGATTT TTCTTGCAAA CCTCTTGGGT GATGCCCTTG TCTTTGTCGG CGGGATTCTC   360

AGCTTGCATT TCCTAGCTGG AATGGCATTT GAAAAAGCTC TTGCTGTGGG GGTTCTTCCC   420

TTTATCATTC CAGACCTTGG CAAACTTCTA GCTATTAGTT TTATTAGCCG TCCCCTACTT   480

CAACGCCTTA AAAATCAGGC TTACTTTACT AACTAAAAAA GGATATCGAG TTATCATGAC   540

TCAATATCCT TTTCTTTTAT TTTGAAAACT TATACTCAAT GAAAATCAAA GAGCAAACTA   600

GGAAGCTAGC CGCAGGCTnG CAAAACACTG TTTTGAGGTT GTGGATGAAA CTGACGAGTA   660

1369

AnATCTCATA CATACGGCAA GGCAAAGCTG AC   692

(2) INFORMATION FOR SEQ ID NO: 354:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1005 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 354:

```
GTGATGGACT ACTGGTTCAA AACGCATCCA GAAGATTTTT TCGATAATGT CGGACCTCTT      60

GTAGCCAGTA ACTTTTTTCA TACTTACACC GAAGATTTCC ACTTGATGAA GGAAATTGGA     120

GTTAATTCTT TCCGCACTTC CATCCAATGG AGTCGACTCA TCAAGAATTT AGAGACAGGT     180

GAGCCTGATC CAAAAGGTAT TGCTTTCTAC AATGCCATCA TTGAAGAAGC TAAAAAGAAC     240

CAGATGGATC TTGTGATGAA TTTACATCAT TTTGATTTAC CAGTGGAACT TCTTCAAAAA     300

TACGGTGGTT GGGAAAGCAA ACATGTAGTG GAGTTATTCG TGAAGTTTGC CAAGACTGCT     360

TTCACATGCT TTGGAGATAA GGTTCATTAC TGGACAACTT TCAATGAGCC AATGGTCATT     420

CCAGAAGCAG GGTACTTATA TGCTTTCCAT TATCCAAATC TAAAAGGAAA GGGAAAAGAG     480

GCCGTACAAG TCATCTATAA TCTAAACCTT GCTAGTGCAA AAGTGATTCA ACTATATCGC     540

TCATTAGAAC TTGATGGAAA GATTGGGATT ATTTTAAACT TGACACCTGC TTATCCAAGA     600

AGTAATTCTC CAGAAGACTT AGAAGCAAGT CGATTTACAG ATGACTTCTT TAACAAAGTC     660

TTCTTGAATC CAGCTGTTAA AGGAACTTTC CCAGAAAGAT TGGTAAAACA GCTAGAGAGA     720

GATGGCGTGT TATGGAGTCA TACCGAAAAA GAGCTTCAAC TGATGAAATC AAATACGGTT     780

GATTTTCTTG GAGTAAACTA CTACCATCCA AAACGTGTTC AAGCACAAGC AAATCCTGAG     840

GAATATCAGA CGCCCTGGAT GCCAGACCAA TACTTCAAAG AGTATGAATG GCTGGAGCGT     900

CGCATGAATC CATATCGTGG TTGGGAAATT TTTCCGAAAG CCATTTATGA TATTGCTATG     960

ATTGTGAAGG AAGAATATGG TAATATCCCA TGGTTTATCA GTGAA                    1005
```

(2) INFORMATION FOR SEQ ID NO: 355:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 973 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

1370
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355:

```
CCGACAAGCA ATATTAAAAA GAGTAAACTA TTAACTAGTT AATTAACCGG TTTATTACTT          60

TATAGTGAAT CAAATATACT TAAGAAAAGA GGAAAGAATG AAAATTAATA AAAAATATCT         120

AGCAGGTTCA GTGGCAGTCC TTGCCCTAAG TGTTTGTTCC TATGAGCTTG GACGTTACCA         180

AGCTGGTCAG GATAAGAAAG AGTCTAATCG AGTTGCTTAT ATAGATGGTG ATCAGGCTGG         240

TCAAAAGGCA GAAAACTTGA CACCAGATGA AGTCAGTAAG AGGGAGGGGA TCAACGCCGA         300

ACAAATTGTT ATCAAGATTA CGGATCAAGG TTATGTGACC TCTCATGGAG ACCATTATCA         360

TTACTATAAT GGCAAGGTTC CTTATGATGC CATCATCAGT GAAGAGCTCC TCATGAAAGA         420

TCCGAATTAT CAGTTGAAGG ATTCAGACAT TGTCAATGAA ATCAAGGGTG GTTATGTCAT         480

TAAGGTAAAC GGTAAATACT ATGTTTACCT TAAGGATGCA GCTCATGCGG ATAATATTCG         540

GACAAAAGAA GAGATTAAAC GTCAGAAGCA GGAACGCAGT CATAATCATA ACTCAAGAGC         600

AGATAATGCT GTTGCTGCAG CCAGAGCCCA AGGACGTTAT ACAACGGATG ATGGGTATAT         660

CTTCAATGCA TCTGATATCA TTGAGGACAC GGGTGATGCT TATATCGTTC CTCACGGCGA         720

CCATTACCAT TACATTCCTA AGAATGAGTT ATCAGCTAGC GAGTTAGCTG CTGCAGAAGC         780

CTATTGGAAT GGGAAGCAGG GATCTCGTCC TTCTTCAAGT TCTAGTTATA ATGCAAATCC         840

AGCTCAACCA AGATTGTCAG AGAACCACAA TCTGACTGTC ACTCCAACTT ATCATCAAAA         900

TCAAGGGGGA AACATTTCAA GCCTTTTACG TGAATTGTAT GCTAACCCTT ATCAGAACGC         960

CATGTGGGAT CTG                                                           973
```

(2) INFORMATION FOR SEQ ID NO: 356:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 843 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356:

```
GGTCGCATCT GCAATATCTG TCGCCTCCAC ATAAGCGACA CCAGCCTTGT CTGCTGCCCG          60

TTTGACACGT TCTGCAGATT GACCCAGGAT GACCATCTTC TTGAGTCCAG TAATGTCTGG         120

CACCAATTCG TCAAACTCAT TGCCACGGTC CAAACCACCT GCAATCAAGA CGACCTTGCT         180

GTTGTCAAAT CCTGACAAGC TTTTTGAGTA GCCAAGATAT TAGTTGATTT ACTGTCGTTA         240

TAGAATTTAA CACsCTTGAT GTCATCCACA AACTGGAGAC GGTGTTTGAC ACCACCGAAG         300

GCTGAAAGAG TTTCCTTGAT GGTTTGATTG TCCACATCAC GAAGCTTGGC TACAGCAATA         360
```

1371

```
GTCGCAAGGG CATTTTCCAC ATTGTGGCTA CCTGGAACAC CGATTTCATT CGCTGCCATG      420

ACTACTTCAC CACGGAAGTA GAGTTGACCA TCTTCCAGAT AAGCTCCATC AACCTTTTCA      480

AGTGTTGAAA ATGGTACAAC AGTGGCTTCT GTCTTGGAAG TCAAGTCTTT TGCCAAGTCT      540

TGATTAAAGT TCAAGACAAG GAAATCAGCT GCTGTCATCT TGTTCTGGAT ATTCCACTTG      600

GCTGCTACAT ATTCCGAAAA TGACCCATGG TAGTCGATAT GAGTTGGCAT GAGGTTGGTA      660

ATAACCGCAA TCTCTGGATG GAATTCTTGA ACACCCATGA GTTGGAAAGA AGAAAGTTCC      720

ATAACAAGCG TGTCCTTATC TGATGCTATT TGAGCAACCT GACTAGCTGG ATAGCCGATA      780

TTCCCTGATA AAAGACCATG TTGGCCAGCA GCAGTCAAAA CTTCCCGGGn TCCTCTAGAG      840

TCG                                                                   843
```

(2) INFORMATION FOR SEQ ID NO: 357:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 807 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 357:

```
TTTTTTTTAT ATTTTTTTTA TTTATTATTT TTTGGCAAAA AAGACCAATT TGCTTTGGAG       60

CATTGCTTCT GCATTAAATT GTCTATTTTT GCTCGTGCTG TTACGCTCTT TGTATCATGT      120

ATTAACTAGC AAGTGCAACT TGCAAACTAC TAGTAAGAGG AGAAAAACAA AATGGTTATG      180

ACTGACCCAA TCGCAGACTT CCTAACTCGT ATTCGTAATG CTAACCAAGC TAAACACGAA      240

GTACTTGAAG TACCTGCATC AAACATCAAA AAAGGGATTG CTGAAATCCT TAAACGCGAA      300

GGTTTTGTAA AAAACGTTGA AATCATTGAA GATGACAAAC AAGGCGTCAT CCGTGTATTT      360

CTTAAATACG GACCAAATGG TGAGAAAGTT ATCACTAACT TGAAACGTGT TTCTAAACCA      420

GGACTTCGTG TCTACAAAAA ACGTGAAGAC CTTCCAAAAG TTCTTAACGG ACTTGGAATT      480

GCCATCCTTT CAACTTCTGA AGGTTTGCTT ACTGATAAAG AAGCACGCCA AAAGAATGTT      540

GGTGGTGAGG TTATCGCTTA CGTTTGGTAA AATCAAGATA CAAAGCTCGT AAAGAACAAA      600

GCAAAATTAG GAAGTTGGAG AAGTTTGTTT ACAAACAGGC CAACTTATCT ATTTTGCACA      660

GTTCTTAGAG CGTGTTCAGT TCAGCTCTTG AGCTAAGTAA GTATCTGAAC CCCGTGAAAA      720

CTGGCCGTGC TGGCATGTTC GGGTAACAGG AGAnAATAAA CATGTCACGT ATTGGTAATA      780

AGTTCAGCTA AGGCCTTCGT AAAAGTT                                         807
```

1372

(2) INFORMATION FOR SEQ ID NO: 358:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 653 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 358:

```
CCCAGTATTT TTGTCCAAGC ACGACCAGAA AAGGATGATA CAGATCTGGA ATTGGCTCTC        60

TTAACCATCT tTGAACAAAA TCCTCAGGCT CAGGTCACTA TTTTCGGTGC CTTGGGTGGC       120

CGTATTGACC ATATGTTGGC CAATGTCTTT CTGCCTAGCA ATCCTAAGTT GGCACCCTAT       180

ATGCATCAAA TAGAAATTGA GGATGGGCAA AACTTGATTA CTTATTGTCC AGAAGGAATC       240

AGTCAGCTAG AACCTCGTTC AGACTACGAC TATCTAGCCT TTATGCCAGT TCGGGATAGC       300

CAAGTATGAG TTGACAGAGG AAAATTTTTT CTTTAAAAAA GTGTACGCTT CTAACGAATA       360

TATAGATAGG GAAGTGTCGG TAACTTGCCC AGATGGTTAT GTGGTCGTAC TGCATAGCAA       420

GGACAGGAGG TAGGATGGAA AGTTTACTTA TTCTATTATT AATTGCCAAT CTAGCTGGTC       480

TCTTTCTGAT TTGGCAAAGG CAGGATAGGC AGGAGAAACA CTTAAGTAAG AGCTTGGAGG       540

ATCAGGCAGA TCATTTGTCA GACCAGCTGG ATTACCGCTT TGACCAAGCC AGACAAGCCA       600

GCCAGTTAGA CCAAAAAGAT TTGGAAGTGG TTGTCAGCGA CCGTTTGCAA GAA             653
```

(2) INFORMATION FOR SEQ ID NO: 359:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 641 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 359:

```
CACCATGTGA TGTGACGCTG GCCACAGCTG TCAGAAATCT GGCGAGCCAT CGTGTGCAAT        60

GACTCTTCCC GATGTAATCT TGTTCATAGT CCTTTGATGA ATATGTTCAA GCTGTAGAAG       120

GTGCGCTTCC TGAACACTTA TCAACTGTTA CAGGCGAGTT GACCAGTCAG GAAACAGATG       180

GCTGGTACAC ACTTGCCAAC ACTTCTTCAT CCCGCATTTA CCTAAAACAA GCCTTCCAAG       240

AAAATAGCAA CCTCCTAGAG CAAGTGGTAG AACCCTTGAC TATTATCACT GGTGGACACA       300

ACCACAAGGA CCAGTTGACC TATGCTTGGA AAACACTTTT GCAGAATGCG CCACATGATA       360

GTATCTGTGG CTGTAGCGTG GACGAAGTTC ACCGCGAGAT GGAAACGCGT TTTGCCAAGG       420
```

1373

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TCAACCAAGT AGGAAACTTT GTTAAAAGTA ACTTGCTCAA CGAGTGGAAG GGTAAAATTG        480

CTACGGATAA GGCTCAAAGT GACTATCTCT TTACTGTCAT TAACACAGGC TTGCATGATA        540

AGGTCGATAC TGTCAGCACA GTGATTGATG TGGCGACTTG TGATTTCAAG GAATTGCACC        600

CAACAGAAGG CTACAAAAAG ATGGCTGCTC TTATCTTGCC G                            641
```

(2) INFORMATION FOR SEQ ID NO: 360:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1958 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360:

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CCTCAAGGCC AATTTGAAGG CTCTAAAACA ATGGAAAAGT GCTACACAGA TGTGACAGAA        60

TTTGCCATTC CAGCAAGTAC TCAAAAGCTT TACTTATCAC CAGTTTTAGA TGGCTTTAAT       120

AGCGAAATTA TTGCTTTTAA TCTTTCGACT TCACCCAACT TAGAACAAGT ACAAACAATG       180

TTAGAACAGG CATTCAAAGA GAAGCACTAC GAGAATACGA TTCTCCATAG TGACCAAGGC       240

TGGCAATATC AACACGATTC TTATCATCGG TTCCTAGAGA GTAAGGGAAT TCAAGCATCT       300

ATGTCACGCA AGGGCAACAG CCAAGACAAC GGTATGATGG AATCTTTCTT TGGCATTTTA       360

AAATCCGAAA TGTTTTATGG CTATGAGAAA ACATTTAAAT CACTTAACCA ATTGGAACAA       420

GCCATTATAG ACTATATTGA TTACTACAAC AACAAACGAA TTAAGGTAAA ACTAAAAGGA       480

CTTAGTCCTG TGCAGTACAG AACTAAATCC TTTGGATAAA TTAATTGTCT AACTTTTTGG       540

GGTCAGTACA AAACTCTTGC TACTATGCGT TTTATTATTG AAAGACTTAT TGGACTTTCT       600

CTCAAATCGA GTTTTTACTC AATTTTCTTA CTTGATTGGG ATTGAAATTC CAATTAATTT       660

CTCTGAGTAG AGTGTCTTGA TATTGGCTTC ATCAACAGAG GCCTTATCAA TTTTTACGTTT       720

CAAGAAAAAT TCTTGAATGG TTTCGATTTC AGGCTCACGA ATAGCACGGT GTTTGTTTGA       780

GATGAGGATT TCATAGTGAA GCGGAGCTTG GGTAAAAATA ACATCTGTAT TCCCTGCAGA       840

ATAAACCTCA ACAAGGGTTG CATCGGTACT TTCTAGCTGA CTTTTTACAA GTTGCGAGTG       900

TGAGTTTGTC GTATTGATAA GCTTCATAAT ATTTCCTCCG ATTTTCTAAT TCTATTATAG       960

CACTTTTTGA ATAAAGTCGC TTGATTTATA CTCAATGAAA ATCAAAGAGC AAACTAGGAA      1020

GCTAGCCGCA GGCTATACTT GAGTACGGTA AGGCGACGCT GACGTGGTTT GAATTTTATT      1080

TTCGAAGAGT ATTAGCCAAT CTTATGCTGT TTTTTCCAAG ATTCAATGGC CCATTTATGG      1140
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1374

```
CTACCACGTT TAAGGTTTTT GATAGCCTCG TCAATAGGGA ACCAGGCAAT ATGATTAAAG      1200

TTTTCTAGTG GCTTTTGTAC TTCTTTGAAA GGAGTTGCTT CATAGAGGTA GGCAGGATTG      1260

TAGTAGTAGG TATCACGATG ACGAGAATAG AAATATTCGT CAGCTTGTCC GTAATAGGTA      1320

CCAATTTCTG CTGTGAAACC AAGCTCTTCA ATCAACTCAT GCTTTAGGGC TTCCTGATGA      1380

TTTTCACCTG CTTCAATTTC TCCACATGGT AGGAACCAAG CACCATTTGG TTCTTGAACA      1440

AGAACAATTT GTTTTTGTTC AGGATTAGGG ATAACTGCAT ATACGCCATA GCGAGCAATA      1500

TAGTCTGTAT TCACTTTTTT TCTCCGAAAG TTGGGTTTGC CATTGCATTT TCCTCATTAT      1560

CTAGTATCGT TATTATTATA GTGAAATGAA CCAAAAATAG TACACAATGT GGTATAATCT      1620

TCTTATGGCA TATTCAATAG ATTTTCGTAA AAAAGTTCTC TCTTATTGTG AGCGAACAGG      1680

TAGTATAACA GAAGCATCAC ACGTTTTCCA AATCTCACGT AATACCATTT ATGGCTGGTT      1740

AAAGCTAAAA GAGAAAACAG GAGAGCTAAA CCACCAAGTA AAAGGAATAA AACCAAGAAA      1800

GGTTGATAGA GATAGACTTA AAAACTATCT TACTGACAAT CCAGACGCTT ATTTGACTGA      1860

AATAGCTTCT GAATTTGGCT GTCATCCAAC TACCATCCAC TATGCGCTCA AAGCTATGGG      1920

tACACTCGAA AAAAAAAGA ACTACACCTA CTATGAAC                              1958
```

(2) INFORMATION FOR SEQ ID NO: 361:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 851 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

```
TATGAAATTA AGTTATGATG ATAAAGTTCA GATCTATGAA CTTAGAAAAC AAGGATATAG       60

CTTAGAGAAG CTTTCAAATA AATTTGGGAT AmACAATTCT AATCTTAGGT ATATGATTAA      120

ATTGATTGAT CGTTACGGAA TAGAGTTCGT CAAAAAAGGA AAAAATCGTT ACTATTCTCC      180

TGATTTAAAA CAAGAAATGA TTAATAAAGT CTGACATGAA GGCTGGACTA AAGATAGAGT      240

TTCTCTTGAA TACGGTCTCC CAAGTCGTAC GATACTTCTT AACTGGCTAG CACAATACAG      300

GAAAAACGGG TATACTATTG TTGAGAAACC AAGAGGGAGA GTACCTGAGA GCGGAGAATG      360

CCATCCTAAA AAAGTTAAGA GAACTCCGAT TGAAGGAGGA AAAAGAGAAA GAAGAAAGAC      420

AGAAATTGTT TAAGAATTAA TGACTGAGTT TTCGTTAGAT CTTCTTTTAA AAGTCATTAA      480

ACTAGCTCGT TCGACCTACT ACTATCACTT GAAACAGCTA GATAAACCAG ATAAGGACCA      540

AGAGCTTAAA GCTGAAATTC AATCCATTTT TATCGAACAC AAAGGAAATT ATGCTTATCG      600
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1375

TCGGATTTAT TTAGAACTAA GAAATCGTGG TTATCTGGTA AATCATAAAA GAGTTCAAGG   660

CTTGATGAAA GTACTCAATt TACAAGCTAA AACGCGACAG AAACGAAAAT ATTCTTCTCA   720

TAAAGGAGAC GTTGGCAAGA AGGCAGAGAA TCTCATTCAA GGCCAATTTG AAGGCTCTAA   780

AACAATGGAA CAGTGCTACA CAGATGTGAC AGAATTTGCC ATTCCAGTAA GTACTTAAAA   840

GCTTTACTTA T   851

(2) INFORMATION FOR SEQ ID NO: 362:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1168 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362:

GGGTAGAATC GATATCTCCA ATGAGTTGGT tTAGCTGGTG AAACTGTAAA AAGATTTCGw   60

CCAATTCAAG GTTGAGGCAT CGCAAACTAT GGACTGTTTC CTCGTCAGTT CTGGAAAGAA   120

AACGGGATAA GGTTGGCTGT GAAGCAAGCT GCCCTCCTTC CAACAATTTT GGAAAGTAGG   180

CATCAGCTGA CAATTCTTTA CAAGCATAGT CCGTTCCATA ACCTGTTAAC AGTTGAAAGA   240

GGAACTGGAC AAGGATATCT GAATCCGAAT AACGACAGTA GCGGCGTTGG TCATTCGTTA :   300

CTAAATACTT AGAAATCCGC TCTTTTAGTT TCAACTGGGA AAAAGTTCC TGAAAAAAGA   360

TAAGACCACC ATACTGGGTT AAATGACCTC CATCGAAAGA TAGTTGGTAA AAAGACTTGT   420

TTTGGAAGTG ATGATTTGGT AAACTGTTCA TGTGAGTTTC CTTTCTTTTT GTGTTTTTTT   480

CTACACTTAT ACCATAAAGG GGAAACTCTT TTTTGTCTAG TAAAAAACAC CCATTGGGTG   540

AAAAAAGAAA CCATCCAGGA TCTAAGCTAA GGCAAGGATT CTGGATGGTT TTTAGATTTG   600

GGGTGAATAA TTGGGGTTTT AGCTGCTTGC GGCCAATCAG GTTCAGATAC AAAAACTTAC   660

TCATCAACCT TTAGTGGAAA TCCAACTACA TTTAACTATC TATTAGACTA TTACGCTGAT   720

AATATAGTCA ATTGAAACAA GAACAAGACA AAAGAGCCTC ATAAAAGGTA TTGCAACTTG   780

GTAATACCTT TTTGAGGTGC TTTTTGATAT GAGCCCATGT TTTCTCAATA GGATTGTACT   840

CAGGTGAGTA GGGAGGAAGA GGTAAAAGTT TATACCCAAA CTCTTCACAC AAGAGTTCTA   900

ACTTACCCAT TCTATGGAAT CTTGCATTAT CCATAATAAT AACCGATGGT GTGTTTAATG   960

TTGGTAAGAG AAATTTCTGA AACCAAGCTT CAAAAAAGTC GCTCGTCATC GTCTCTTCGT   1020

AAGTTATTGG AGCGATTAAC TCACCATTTG TTAGACCTGC AACCAAAGAA ATCCTCTGAT   1080

<div align="center">1376</div>

ATCTTCTTCC AGATACTTTG CCTCTTCTTA ACTGACCTTT TAATGAGCGA CCATATTCTC   1140

GATAAAAATA AGTATCGAAT CCTGTTTC   1168

(2) INFORMATION FOR SEQ ID NO: 363:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4483 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363:

GTCAGCTTCA GCAAGCCCAT CAGCTTCTGA ATCTGCATCA ACCAGTGCGT CCGCTTCAGC   60

GTCAACCAGT GCGTCGGCTT CAGCGTCGAC AAGTGCTTCG GCTTCAGCAT CAACGAGTGC   120

GTCGGCCTCA GCAAGCGCAA GTACCTCAGC GTCAGCTTCC GCCTCAACCA GTGCGTCGGC   180

TTCAGCAAGC ACAAGTGCGT CAGCCTCAGC AAGTATCTCA GCGTCTGAAT CGGCATCAAC   240

GAGTGCGTCT GAGTCAGCAT CAACGAGTAC GTCAGCCTCA GCAAGCACAT CAGCTTCTGA   300

ATCTGCATCA ACCAGTGCGT CAGCCTCAGC ATCGACAAGC GCCTCAGCTT CAGCAAGTAC   360

CAGTGCTTCA GCCTCAGCGT CGACAAGTGC GTCGGCCTCA ACCAGTGCAT CTGAATCGGC   420

ATCAACCAGT GCGTCAGCCT CAGCAAGTAC TAGTGCATCA GCTTCAGCAT CAACGAGTGC   480

ATCGGCTTCA GCATCAACCA GTGCCTCGGC TTCAGCGTCA ACCAGTGCGT CAGCTTCAGC   540

AAGTACCAGT GCTTCAGTCT CAGCATCAAC AAGTGCTTCA GCCTCAGCAT CGACAAGTGC   600

CTCGGCTTCA GCAAGCACAT CAGCATCTGA ATCAGCGTCG ACAAGCGCCT CAGCTTCAGC   660

AAGTACCAGT GCGTCAGCCT CAGCGTCGAC AAGTGCGTCA GCCTCAGCAA GTACTAGTGC   720

ATCAGCTTCA GCATCAACGA GTGCATCGGC TTCGGCGTCA ACCAGTGCAT CAGAGTCAGC   780

AAGTACCAGT GCGTCAGCTT CCGCATCAAC AAGTGCCTCG GCTTCAGCAA GCACCAGTGC   840

GTCGGCTTCA GCAAGTACTA GCGCCTCAGC CTCAGCCTCA ACCAGTGCGT CAGCCTCAGC   900

AAGTATCTCA GCGTCTGAAT CGGCATCAAC GAGTGCGTCC GCTTCAGCAA GTACTAGCGC   960

CTCAGCCTCA GCGTCAACAA GTGCATCGGC TTCAGCGTCA ACGAGTGCGT CTGAATCGGC   1020

ATCAACGAGT GCGTCCGCTT CAGCAAGTAC TAGCGCCTCA GCCTCAGCGT CAACAAGTGC   1080

ATCGGCTTCA GCATCAACGA GTGCGTCCGC TTCAGCAAGT ACTAGCGCCT CAGCCTCAGC   1140

GTCAACAAGT GCATCGGCTT CAGCGTCAAC GAGTGCGTCT GAGTCAGCAT CAACGAGTGC   1200

GTCAGCCTCA GCAAGCACAT CAGCTTCTGA ATCTGCATCA ACCAGTGCGT CAgCCTCAGC   1260

ATCGACAAGC GCCTCAGCTT CAGCAAGTAC CAGTGCGTCA GcTCAGCGTC GACAAGTGCs   1320

1377

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TCrGCTTCAG CAAGTACCAG TGCGTCAGCC TCAGCAAGTA CCAGTGCkTC AGCCTCAGCG      1380

TCGACAAGTG CGTCGGCCTC AACCAGTGCA TCTGAATCGG CATCAACCAG TGCGTCAGCC      1440

TCAGCAAGTA CTAGCGCCTC AGCCTCAGCA TCAACGAGTG CGTCCGCTTC AGCAAGTACT      1500

AGTGCATCAG CTTCAGCAAG TACTAGCGCC TCAGCCTCAG CGTCGACAAG CGCCTCAGCT      1560

TCAGCAAGTA CCAGTGCGTC AGCCTCAGCG TCGACAAGTG CGTCGGCTTC AGCAAGTACC      1620

TCAGCGTCTG AATCAGCATC AACAAGTGCG TCGGCTTCAG CATCAACGAG TGCATCAGCT      1680

TCAGCATCAA CAAGTGCTTC AGCTTCAGCA AGTACCAGTG CGTCGGCTTC AGCATCAACG      1740

AGTGCTTCAG TCTCAGCGTC AACCAGTGCC TCTGAATCCG CATCAACAAG TGCCTCGGCT      1800

TCAGCAAGCA CCAGTGCTTC GGCTTCAGCG TCAACGAGTG CGTCTGAGTC AGCATCAACG      1860

AGTGCGTCAC CTCAGCAAGC ACATCAGCTT CTGAATCTGC ATCAACCAGT GCGTCACTTC      1920

CGCATCAACA AGCGCCTCGG CCTCAGCAAG TACAAGTGCT TCAGCCTCAG CATCAACCAG      1980

TGCATCAGCT TCAGCCTCAA CAAGTGCTTC AGCCTCAGCG TCAACCAGTG CCTCGGCTTC      2040

AGCAAGTACC AGTGCGTCAG cTTCAGCAAG CACAAGTGCG TCAGCTTCAG CATCAACCAG      2100

TGCTTCGGCT TCGGCATCAA CAAGTGCCTC AGCATCAGCA TCAACGAGTG CGTCAsCTCA      2160

GCAAGTACTA GTGCATCAGC ATCAGCATCA ACCAGTGCAT CAGCCTCAGC AAGTATCTCA      2220

GCGTCTGAAT CGGCATCAAC GAGTGCATCA GCATCAGCAT CAACGAGTGC ATCGGCTTCA      2280

GCGTCAACCA GTGCATCAGT CTCAGCAAGC ACCAGTGCGT CGGCTTCAGC ATCAACCAGT      2340

GCCTCAGCCT CAGCAAGTAT CTCAGCGTCT GAATCGGCAT CAACGAGTGC GTCAGcCTCA      2400

GCAAGTACTA GTGCATCAGC ATCAGCATCA ACGAGTGCAT CGGCTTCAGC AAGTACCAGC      2460

GCCTCAGCTT CAGCAAGCAC CAGTGCGTCA GCCTCAGCAA GTACCAGCGC CTCAGCCTCA      2520

GCAAGCACCA GTGCCTCAGC TTCAGCAAGT ACCAGTGCGT CAGCCTCAGC GTCGACAAGT      2580

GCGTCGGCTT CAGCAAGTAC CTCAGCGTCT GAATCAGCAT CAACGAGTGC ATCAGCTTCA      2640

GCATCAACAA GTGCTTCAGC TTCAGCAAGT ACCAGTGCGT CGGCTTCAGC ATCAACGAGT      2700

GCTTCAGTCT CAGCGTCAAC CAGTGCCTCT GAATCAGCAT CAACAAGTGC CTCGGCTTCA      2760

GCAAGCACCA GTGCGTCGGC TTCAGCAAGT ACTAGTGCAT CGGCTTCAGC ATCGACAAGT      2820

GCGTCTGAAT CGGCATCAAC GAGTGCTTCG GCTTCAGCAT CAACGAGTGC GTCAGCCTCA      2880

GCAAGCACAT CAGCTTCTGA ATCTGCATCA ACCAGTGCGT CCGCTTCAGC GTCAACCAGT      2940

GCGTCGGCTT CAGCGTCGAC AAGTGCTTCG GCTTCAGCAT CAACGAGTGC GTCGGCCTCA      3000

GCAAGCGCAA GTACCTCAGC GTCAGCTTCC GCCTCAACCA GTGCGTCCGC TTCAGCAAGC      3060
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1378

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ACAAGTGCGT CAGCCTCAGC AAGTATCTCA GCGTCTGAAT CGGCATCAAC GAGTGCGTCG      3120

GCCTCAGCAA GCGCAAGTAC CTCAGCCGTCA GCTTCCGCCT CAACCAGTGC GTCGGCTTCA     3180

GCAAGCACAA GTGCGTCAGC CTCAGCAAGT ATCTCAGCGT CTGAATCGGC ATCAACGAGT      3240

GCGTCTGAGT CAGCATCAAC GAGTACGTCA GCCTCAGCAA GCACATCAGC TTCTGAATCG      3300

GCATCAACCA GTGCGTCAGC CTCAGCATCG ACAAGCGCCT CAGCTTCAGC AAGTACCAGT      3360

GCTTCAGCCT CAGCGTCGAC AAGTGCGTCG GCCTCAACCA GTGCATCTGA ATCGGCATCA      3420

ACCAGTGCGT CAGCCTCAGC AAGTACTAGT GCATCAGCTT CAGCATCAAC GAGTGCATCG      3480

GCTTCAGCAT CAACCAGTGC CTCGGCTTCA GCGTCAACCA GTGCGTCAGC TTCAGCAAGT      3540

ACCAGTGCTT CAGTCTCAGC ATCAACAAGT GCTTCAGCCT CAGCATCGAC AAGTGCCTCG      3600

GCTTCAGCAA GCACATCAGC ATCTGAATCA GCGTCGACAA GCGCCTCAGC TTCAGCAAGT      3660

ACCAGTGCGT CAGCCTCAGC GTCGACAAGT GCGTCAGCCT CAGCAAGTAC TAGTGCATCA      3720

GCTTCAGCAT CAACGAGTGC ATCGGCTTCG GCGTCAACCA GTGCATCAGA GTCAGCAAGT      3780

ACCAGTGCGT CAGCTTCCGC ATCAACAAGT GCCTCGGCTT CAGCAAGCAC CAGTGCGTCG      3840

GCTTCAGCAA GTACTAGCGC CTCAGCCTCA GCCTCAACCA GTGCGTCAGC CTCAGCAAGT      3900

ATCTCAGCGT CTGAATCGGC ATCAACGAGT GCGTCCGCTT CAGCAAGTAC TAGCGCCTCA      3960

GCCTCAGCGT CAACAAGTGC ATCGGCTTCA GCGTCAACGA GTGCGTCTGA ATCGGCATCA      4020

ACGAGTGCGT CCGCTTCAGC AAGTACTAGC GCCTCAGCCT CAGCGTCAAC AAGTGCATCG      4080

GCTTCAGCAT CAACGAGTGC GTCCGCTTCA GCAAGTACTA GCGCCTCAGC CTCAGCGTCA      4140

ACAAGTGCAT CGGGTTCAGC GTCAACGAGT GCGTCTGAGT CAGCATCAAC GAGTGCGTCA      4200

CCTCAkCAAG CACATCAGCT TCTGAATCTG CATCAACCAG TGCGTCACTT CCGCATCAAC      4260

AAGCGCCTCG GCCTCAGCAA GTACAAGTGC TTCAGCCTCA GCATCAACCA GTGCATCAGC      4320

TTCAGCCTCA ACAAGTGCTT CAGCCTCAGC GTCAGACCAG TGCCTCGGCT TCAGCAAGTA      4380

CCAGTGCGTC ACTTCAGCAA GCACAAGTGC GTCAGCTTCA GCATCAACCA GTGCTTCGGC      4440

TTCGGCATCA ACAAGTGCCT CAGCATCAGC ATCAACGAGT GCG                       4483
```

(2) INFORMATION FOR SEQ ID NO: 364:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2550 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364:

1379

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GTACCTCAGC GTCCTTCCGC CTCAACCAGT GCGTCCGCTT CAGCAAGCAC AAGTGCGTCA        60

CCTCAGCAAG TATCTCAGCG TCTGAATCGG CATCAACGAG TGCGTCGGCC TCAGCAAGCG       120

CAAGTACCTC AGCGTCACTT CCGCCTCAAC CAGTGCGTCG GCTTCAGCAA GCACAAGTGC       180

GTCAsCTCAG CAAGTATCTC AGCGTCTGAA TCGGCATCAA CGAGTGCGTC TGAGTCAGCA       240

TCAACGAGTA CGTCAGCCTC AGCAAGCACA TCAGCTTCTG AATCGGCATC AACCAGTGCG       300

TCAGCCTCAG CATCGACAAG CGCCTCAGCT TCAGCAAGTA CCAGTGCTTC AGCCTCAGCG       360

TCGACAAGTG CGTCGGCCTC AACCAGTGCA TCTGAATCGG CATCAACCAG TGCGTCAGCC       420

TCAGCAAGTA CTAGTGCATC AGCTTCAGCA TCAACGAGTG CATCGGCTTC AGCATCAACC       480

AGTGCCTCGG CTTCAGCGTC AACCAGTGCG TCAGCTTCAG CAAGTACCAG TGCTTCAGTC       540

TCAGCATCAA CAAGTGCTTC AGCCTCAGCA TCGACAAGTG CCTCGGCTTC AGCAAGCACA       600

TCAGCATCTG AATCAGCGTC GACAAGTGCG TCGGCCTCAA CCAGTGCATC TGAATCGGCA       660

TCAACCAGTG CGTCAGCCTC AGCAAGTACT AGTGCATCAG CTTCAGCATC AACGAGTGCA       720

TCGGCTTCGG CGTCAACCAG TGCATCAGAG TCAGCAAGTA CCAGTGCGTC AGCTTCCGCA       780

TCAACAAGTG CCTCGGCTTC AGCAAGCACA TCAGCATCTG AATCAGCGTC AACCAGTGCT       840

TCGGCTTCAG CAAGTACCAG TGCTTCAGCT TCAGCATCAA CCAGCGCCTC GGCCTCAGCA       900

AGCACCTCAG CTTCTGAATC GGCCTCAACC AGCGCCTCGG CCTCAGCAAG CACCTCAGCT       960

TCTGAATCGG CCTCAACCAG CGCCTCAGCC TCAGCATCAA CGAGTGCTTC GGCTTCAGCA      1020

AGCACAAGCG CCTCGGGTTC AGCATCAACG AGTACGTCAG CTTCAGCGTC AACCAGTGCT      1080

TCAGCCTCAG CATCAACAAG TGCGTCAGCC TCAGCAAGTA TCTCAGCGTC TGAATCGGCA      1140

TCAACGAGTG CGTCTGAGTC AGCATCAACG AGTACGTCAG CCTCAGCAAG CACAAGTGCT      1200

TCAGCCTCAG CAAGTATCTC AGCGTCTGAA TCGGCATCAA CGAGTGCGTC CGCTTCAGCA      1260

AGTACTAGCG CCTCAGCATC AGCGTCAACA AGTGCTTCGG CTTCAGCGTC AACGAGTGCG      1320

TCTGAGTCAG CATCAACGAG TACGTCAGCC TCAGCAAGCA CATCAGCTTC TGAATCTGCA      1380

TCAACCAGTG CGTCAGCCTC AGCATCGACA AGCGCCTCAG CTTCAGCAAG TACCAGTGCG      1440

TCAGCCTCAG CAAGTACCAG TGCTTCAGCC TCAGCGTCGA CAAGTGCGTC GGCCTCAACC      1500

AGTGCATCTG AATCGGCATC AACCAGTGCG TCAGCTCAGC AAGTACTAGT GCATCAGCTT      1560

CAGCATCAAC GAGTGCATCG GCTTCGGCGT CAACCAGTGC ATCAGAGTCA GCAAGTACCA      1620

GTGCGTCACt TCCGCATCAA CAAGTGCCTC GGCTTCAGCA AGCACATCAG CATCTGAATC      1680

AGCGTCAACC AGTGCTTCGG CTTCAGCAAG TACCAGTGCT TCAGCTTCAG CATCAACCAG      1740
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1380

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CGCCTCGGCC TCAGCAAGCA CCTCAGCTTC TGAATCGGCC TCAACCAGCG CCTCGGCCTC     1800

AGCAAGCACC TCAGCTTCTG AATCGGCCTC AACCAGCGCC TCAGCCTCAG CATCAACGAG     1860

TGCTTCGGCT TCAGCAAGCA CAAGCGCCTC GGGTTCAGCA TCAACGAGTA CGTCAGCTTC     1920

AGCGTCAACC AGTGCTTCAG CCTCAGCATC AACAAGTGCG TCAGCCTCAG CAAGTATCTC     1980

AGCGTCTGAA TCGGCATCAA CGAGTGCGTC TGAGTCAGCA TCAACGAGTA CGTCAGCCTC     2040

AGCAAGCACC TCAGCTTCTG AATCGGCCTC AACCAGTGCG TCAGCCTCAG CATCGACAAG     2100

CGCCTCAGCT TCAGCAAGTA CCAGTGCTTC AGCCTCAGCG TCGACAAGTG CGTCGGCCTC     2160

AACCAGTGCA TCTGAATCGG CATCAACCAG TGCGTCAGCC TCAGCAAGTA CTAGTGCATC     2220

GGCTTCAGCA TCAACCAGTG CCTCGGCTTC AGCGTCAACC AGTGCGTCAG CTTCAGCAAG     2280

TACCAGTGCT TCAGTCTCAG CATCAACAAG TGCTTCAGCC TCAGCATCGA CAAGTGCCTC     2340

GGCTTCAGCA AGCACATCAG CATCTGAATC AGCGTCGACA AGCGCCTCAG CTTCAGCAAG     2400

TACCAGTGCG TCAGCCTCAG CGTCGACAAG TGCGTCAGCT ACAGCAAGTA CTAGTGCATC     2460

AGCTTCAGCA TCAACGAGTG CATCGGCTTC GGCGTCAACC AGTGCATCAG AGTCAGCAAG     2520

TACCAGTGCG TCAGTTCACG CATCAACAAG                                     2550
```

(2) INFORMATION FOR SEQ ID NO: 365:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 1436 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

```
ACCCAGCAAG TACTAGTGCA TCGGCTTCAG CAAGCACCAG TGCGTCGGCT TCAGCATCAA       60

CCAGTGCCTC AGCCTCAGCA AGTATCTCAG CGTCTGAATC GGCATCAACG AGTGCGTCAC      120

CTCAGCAAGT ACTAGTGCAT CAGCATCAGC ATCAACGAGT GCATCGGCTT CAGCAAGTAC      180

CAGCGCCTCA GCTTCAGCAA GCACCAGTGC GTCAßCTCAG CAAGTACCAG CGCCTCAGCC      240

TCAGCAAGCA CCAGTGCCTC AGCTTCAGCA AGTACCAGTG CGTCAGCCTC AGCGTCGACA      300

AGTGCGTCGG CTTCAGCAAG TACCTCAGCG TCTGAATCAG CATCAACGAG TGCATCAGCT      360

TCAGCATCAA CAAGTGCTTC AGCTTCAGCA AGTATCTCAG CGTCTGAATC GGCATCAACG      420

AGTGCGTCCG CTTCAGCAAG TACTAGCGCC TCAGCATCAG CGTCAACAAG TGCTTCGGCT      480

TCAGCGTCAA CGAGTGCGTC TGAGTCAGCA TCAACGAGTA CGTCAGCCTC AGCAAGCACA      540

TCAGCTTCTG AATCTGCATC AACCAGTGCG TCAGCCTCAG CATCGACAAG CGCCTCAGCT      600
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1381

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TCAGCAAGTA CCAGTGCGTC AgCCTCAGCA AGTACCAGTG CTTCAGCCTC AGCGTCGACA      660

AGTGCGTCGG CCTCAACCAG TGCATCTGAA TCGGCATCAA CCAGTGCGTC AGCCTCAGCA      720

AGTACTAGCG CCTCAGCCTC AGCATCAACG AGTGCGTCCG CTTCAGCAAG TACTAGTGCA      780

TCAGCTTCAG CAAGTACTAG CGCCTCAGCC TCAGCGTCGA CAAGCGCCTC AGCTTCAGCA      840

AGTACCAGTG CGTCAGCCTC AGCGTCGACA AGTGCGTCGG CTTCAGCAAG TACCTCAGCG      900

TCTGAATCAG CATCAACAAG TGCGTCGGCT TCAGCATCAA CGAGTGCATC AGCTTCAGCA      960

TCAACAAGTG CTTCAGCTTC AGCAAGTACC AGTGCGTCGG CTTCAGCATC AACGAGTGCT     1020

TCAGTCTCAG CGTCAACCAG TGCCTCTGAA TCCGCATCAA CAAGTGCCTC GGCTTCAGCA     1080

AGCACCAGTG CTTCGGCTTC AGCGTCAACG AGTGCGTCTG AGTCAGCATC AACGAGTGCG     1140

TCAGCCTCAG CAAGCACATC AGCTTCTGAA TCTGCATCAA CCAGTGCGTC AGCTTCCGCA     1200

TCAACAAGCG CCTCGGCCTC AGCAAGTACA AGTGCTTCAG CCTCAGCATC AACCAGTGCA     1260

TCAGCTTCAG CCTCAACAAG TGCTTCAGCC TCAGCGTCAA CCAGTGCCTC GGCTTCAGCA     1320

AGTACCAGTG CGTCAGCTTC AGCAAGCACA AGTGCGTCAG CTTCAGCATC AACCAGTGCT     1380

TCGGCTTCGG CATCAACAAG TGCCTCAGCA TCAGCATCAA CGAGTGCGTC AGCCGG        1436
```

(2) INFORMATION FOR SEQ ID NO: 366:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 735 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

```
GCAGTTGCCA CACCGTGCTG ACCAGCACCC GTTCCTGCGA TAATTTTCTT TTTACCCATG       60

CGTwTGGCAA GCCAAACTTG TCCTAAGGCA TTGTTAATCT TGTGGGCTCC TGTATGGTTA      120

AGGTCTTCCC GTTTGAGATA AATCTTGCTC CGCCAATATG CTGGGTCAAG TTTTTTGCGT      180

AATAAAGAGG AGTTTCACGT CCTACGTACT GGCGCAAAAG CTGGTTTAAT TCCTCTTGGA      240

AACTTGGGTC TGCCTGACTT TCACGGTAGG CCTTCTCCAA CTCCAAAACT GCTGTCATCA      300

ATGTTTCTGG GACAAAACGT CCGCCGAATT TTCCGTAAAA TCCATCTTTA TTTGGTTCCT      360

GATATGCCAT GCTTTACCCT CTCTATAAAT CTTCTAATCT TTTCATGATC TTTTTGTCCA      420

TCTGTCTCCA CTCCGCTCGA TACATCTACT GCATAGGGAG TAAAGTGTTG AATTGCTTTT      480

ACTACATTAT CTTCATTAAG GCCACCTGCG ATAAAGAAGG GCTGTGCTAG TCCAGTCGTA      540
```

1382

```
TCCAGTTGAC CCCAATCAAA GGGCTGGCCA CTTCCTGCCA CAGGGGCATC AAAGAGTAGA        600

TAATCTGCCT GAGAATTGGG GACATGCCCA TTTCCATCTA CCTGCACAGC CTGAATACTG        660

GCACAAGGCA AATTCTCAAA TAAATCATCT GCCACCTGAC CGTGAACTTG AACCAAGTCC·       720

AAGCCGGGGA TCCTC                                                         735
```

(2) INFORMATION FOR SEQ ID NO: 367:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1702 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

```
TACTAGCGCC TCAGCCTCAG CGTCAACAAG TGCATCGGCT TCAGCATCAA CGAGTGCGTC         60

CGCTTCAGCA AGTACTAGCG CCTCAGCCTC AGCGTCAACA AGTGCATCGG CTTCAGCGTC·       120

AACGAGTGCG TCTGAGTCAG CATCAACGAG TGCGTCAGCC TCAGCAAGCA CATCAGCTTC        180

TGAATCTGCA TCAACCAGTG CGTCAGCCTC AGCATCGACA AGCGCCTCAG CTTCAGCAAG        240

TACCAGTGCG TCAGCCTCAG CGTCGACAAG TGCGTCGGCT TCAGCAAGTA CCAGTGCGTC        300

AGCCTCAGCA AGTACCAGTG CGTCAGCCTC AGCGTCGACA AGTGCGTCGG CCTCAACCAG        360

TGCATCTGAA TCGGCATCAA CCAGTGCGTC AGCCTCAGCA AGTACTAGTG CATCAGCTTC        420

AGCATCAACG AGTGCATCGG CTTCAGCATC AACCAGTGCA TCAGAGTCAG CAAGTACCAG        480

TGCGTCAgCT TCCGCATCAA CAAGTGCCTC GGCTTCAGCA AGTACTAGCG CCTCAGCCTC        540

AGCGTCAACA AGTGCTTCAG CTTCCGCGTC AACCAGCGCC TCGGCCTCAG CAAGTATCTC        600

AGCGTCTGAA TCGGCATCAA CAAGTGCCTC GGCTTCAGCA TCAACGAGTG CATCAGTCTC        660

AGCAAGCACC AGTGCGTCGG CCTCAGCAAG CACCAGCGCG TCTGAATCCG CATCAACCAG        720

TGCCTCAGCT TCAGCAAGTA CCTCAGCATC TGAATCAGCA TCAACAAGTG CATCGGCT·C        780

AGCAAGCACA AGTGCTTCAG CCTCAGCAAG TATCTCAGCG TCTGAATCGG CATCAACGAG        840

TGCGTCCGCT TCAGCAAGTA CTAGCGCCTC AGCATCAGCG TCAACAAGTG CTTCGGCTTC        900

AGCGTCAACG AGTGCGTCTG AGTCAGCATC AACGAGTACG TCAGCCTCAG CAAGCACATC        960

AGCTTCTGAA TCTGCATCAA CCAGTGCGTC AGCCTCAGCA TCGACAAGCG CCTCAGCTTC       1020

AGCAAGTACC AGTGCGTCAG CCTCAGCAAG TACCAGTGCT TCAGCCTCAG CGTCGACAAG       1080

TGCGTCGGCC TCAACCAGTG CATCTGAATC GGCATCAACC AGTGCGTCAG CCTCAGCAAG       1140

TACTAGCGCC TCAGCCTCAG CATCAACGAG TGCGTCCGCT TCAGCAAGTA CTAGTGCATC       1200
```

1383

AGCATCAGCA TCAACGAGTG CATCGGCTTC AGCAAGTACC AGCGCCTCAG CTTCAGCAAG   1260

CACCAGTGCG TCAGCCTCAG CAAGTACCAG CGCCTCAGCC TCAGCAAGCA CCAGTGCCTC   1320

AGCTTCAGCA AGTACCAGTG CGTCAGCCTC AGCGTCGACA AGTGCGTCGG CTTCAGCAAG   1380

TACCTCAGCG TCTGAATCAG CATCAACGAG TGCATCAGCT TCAGCATCAA CAAGTGCTTC   1440

AGCTTCAGCA AGTACCAGTG CGTCGGCTTC AGCATCAACG AGTGCTTCAG TCTCAGCGTC   1500

AACCAGTGCC TCTGAATCAG CATCAACAAG TGCCTCGGCT TCAGCAAGCA CCAGTGCGTC   1560

GGCTTCAGCA AGTACTAGTG CATCGGCTTC AGCATCGACA AGTGCGTCTG AATCGGCATC   1620

AACGAGTGCT TCGGCTTCAG CATCAACGAG TGCGTCAGCC TCAGCAAGCA CATCAGCTTC   1680

TGAATCTGCA TCAACCAGTG CG   1702

(2) INFORMATION FOR SEQ ID NO: 368:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 941 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

ACCAGTGCAT CAGCTTCAGC CTCAACAAGT GCTTCAGCCT CAGCGTCAAC CAGTGCCTCG   60

GCTTCAGCAA GTACCAGTGC GTCACTTCAG CAAGCACAAG TGCGTCACTT CAGCATCAAC   120

CAGTGCTTCG GCTTCGGCAT CAACAAGTGC CTCAGCATCA GCATCAACGA GTGCGTCACC   180

TCAGCAAGTA CTAGTGCATC AGCATCAGCA TCAACCAGTG CATCAGCCTC AGCAAGTATC   240

TCAGCGTCTG AATCGGCATC AACGAGTGCA TCAGCATCAG CATCAACGAG TGCATCGGCT   300

TCAGCGTCAA CCAGTGCATC AGTCTCAGCA AGCACCAGTG CGTCGGCTTC AGCATCAACG   360

AGTGCCTCAG CCTCAGCAAG TATCTCAGCG TCTGAATCGG CATCAACGAG TGCGTCAGCC   420

TCAGCAAGTA CTAGTGCATC GGCTTCAGCA AGCACCAGTG CGTCGGCTTC AGCATCAACC   480

AGTGCCTCAG CCTCAGCAAG TATCTCAGCG TCTGAATCGG CATCAACGAG TGCGTCAGCC   540

TCAGCAAGTA CTAGTGCATC AGCATCAGCA TCAACGAGTG CATCGGCTTC AGCAAGTACC   600

AGCGCCTCAG CTTCAGCAAG CACCAGTGCG TCAGCCTCAG CAAGTACCAG CGCCTCAGCC   660

TCAGCAAGCA CCAGTGCCTC AGCTTCAGCA AGTACCAGTG CGTCAGCCTC AGCGTCGACA   720

AGTGCGTCGG CTTCAGCAAG TACCTCAGCG TCTGAATCAG CATCAACGAG TGCATCAGCT   780

TCAGCATCAA CAAGTGCTTC AGCTTCAGCA AGTACCAGTG CGTCGGCTTC AGCATCAACG   840

1384

AGTGCTTCAG TCTCAGCGTC AACCAGTGCC TCTGAATCAG CATCAACAAG TGCCTCGGCT   900

TCAGCAAGCA CCAGTGCGTC GGCTTCAGCA AGTACTAGTG C   941

(2) INFORMATION FOR SEQ ID NO: 369:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 869 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

CAGCAAGTAC TAGTGCATCA GCTTCAGCAT CAACGAGTGC ATCGGCTTCT GCGTCAACCA   60

GTGCATCAGA GTCAGCAAGT ACCAGTGCGT CAGCTTCCGC ATCAACAAGT GCCTCGGCTT   120

CAGCAAGCAC CAGTGCGTCG GCTTCAGCAA GTACTAGCGC CTCAGCCTCA GCCTCAACCA   180

GTGCGTCAGC CTCAGCAAGT ATCTCAGCGT CTGAATCGGC ATCAACGAGT GCGTCCGCTT   240

CAGCAAGTAC TAGCGCCTCA GCCTCAGCGT CAACAAGTGC ATCGGCTTCA GCGTCAACGA   300

GTGCGTCTGA ATCGGCATCA ACGAGTGCGT CCGCTTCAGC AAGTACTAGC GCCTCAGCCT   360

CAGCGTCAAC AAGTGCATCG GCTTCAGCAT CAACGAGTGC GTCCGCTTCA GCAAGTACTA   420

GCGCCTCAGC CTCAGCGTCA ACAAGTGCAT CGGCTTCAGC GTCAACGAGT GCGTCTGAGT   480

CAGCATCAAC GAGTGCGTCA GCCTCAGCAA GCACATCAGC TTCTGAATCT GCATCAACCA   540

GTGCGTCAGC CTCAGCATCG ACAAGCGCCT CAGCTTCAGC AAGTACCAGT GCGTCAGCCT   600

CAGCGTCGAC AAGTGCGTCG GCTTCAGCAA GTACCAGTGC GTCAGCCTCA GCAAGTACCA   660

GTGCGTCAGC CTCAGCGTCG ACAAGTGCGT CGGCCTCAAC CAGTGCATCT GAATCGGCAT   720

CAACCAGTGC GTCAGCCTCA GCAAGTACTA GTGCATCAGC TTCAGCATCA ACGAGTGCAT   780

CGGCTTCAGC ATCAACCAGT GCATCAGAGT CAGCAAGTAC CAGTGCGTCA GnTTCCGCAT   840

GCAACAAGTG CCTCGGCTTC AGCAAGTAC   869

(2) INFORMATION FOR SEQ ID NO: 370:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 750 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

TCAACAAGTG CCTCAGCATC AGCATCAACG AGTGCGTCAG CCTCAGCAAG TACTAGTGCA   60

1385

TCAGCATCAG CATCAACCAG TGCATCAGCC TCAGCAAGTA TCTCAGCGTC TGAATCGGCA   120

TCAACGAGTG CATCAGCATC AGCATCAACG AGTGCATCGG CTTCAGCGTC AACCAGTGCA   180

TCAGTCTCAG CAAGCACCAG TGCGTCGGCT TCAGCATCAA CGAGTGCCTC AGCCTCAGCA   240

AGTATCTCAG CGTCTGAATC GGCATCAACG AGTGCGTCAG CCTCAGCAAG TACTAGTGCA   300

TCGGCTTCAG CAAGCACCAG TGCGTCGGCT TCAGCATCAA CCAGTGCCTC AGCCTCAGCA   360

AGTATCTCAG CGTCTGAATC GGCATCAACG AGTGCGTCAG CCTCAGCAAG TACTAGTGCA   420

TCAGCATCAG CATCAACGAG TGCATCGGCT TCAGCAAGTA CCAGCGCCTC AGCTTCAGCA   480

AGCACCAGTG CGTCAGCCTC AGCAAGTACC AGCGCCTCAG CCTCAGCAAG CACCAGTGCC   540

TCAGCTTCAG CAAGTACCAG TGCGTCAGCC TCAGCGTCGA CAAGTGCGTC GGCTTCAGCA   600

AGTACCTCAG CGTCTGAATC AGCATCAACG AGTGCATCAG CTTCAGCATC AACAAGTGCT   660

TCAGCTTCAG CAAGTATCTC AGCGTCTGAA TCGGCATCAA CGAGTGCGTC CGCTTCAGCA   720

AGTACTAGCG CCTCAGCATC AGCGTCAACG   750

(2) INFORMATION FOR SEQ ID NO: 371:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 957 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

CCGGAAAACA GCTCTGGCGC TTGGTCTTGC CCAGCGTATT GCTAGTGGTG ACGTGCCTGC   60

GGAAATGGCT AAGATGCGCG TGTTAGAACT TGATTTGATG AATGTCGTTG CAGGGACACG   120

CTTCCGTGGT GACTTTGAAG AACGCATGAA TAATATCATC AAGGATATTG AAGAAGATGG   180

CCAAGTCATC CTCTTTATCG ATGAACTCCA CACCATCATG GGTTCTGGTA GCGGGATTGA   240

TTCGACTCTG GATGCGGCCA ATATCTTGAA ACCAGCCTTG GCGCGTGGAA CTTTGAGAAC   300

GGTTGGTGCC ACTACTCAGG AAGAATATCA AAAACATATC GAAAAAGATG CGGCACTTTC   360

TCGTCGTTTC GCTAAAGTGA CGATTGAAGA ACCAAGTGTG GCAGATAGTA TGACTATTTT   420

ACAAGGTTTG AAGGCGACTT ATGAGAAACA TCACCGTGTA CAAATCACAG ATGAAGCGGT   480

TGAAACAGCG GTTAAGATGG CTCATCGTTA TTTAACCAGT CGTCACTTGC CAGACTCTGC   540

TATCGATCTC TTGGATGAGG CGGCAGCAAC AGTGCAAAAT AAGGCAAAGC ATGTAAAAGC   600

AGACGATTCA GATTTGAGTC CAGCTGACAA GGCCCTGATG GATGGCAAGT GGAAACAGGC   660

1386

AGCCCAGCTA ATCGCAAAAG AAGAGGAAGT ACCTGTCTAC AAAGACTTGG TGACAGAGTC   720

TGATATTTTG ACCACCTTGA GTCGCTTGTC AGGAATCCCA GTTCAAAAAC TGACTCAAAC   780

GGATGCTAAG AAGTATTTAA ATCTTGAAGC AGAACTCCAT AAACGGGTTA TCGGTCAAGA   840

TCAAGCTGTT TCAAGCATTA GCCGTGCCAT TCGCCGCAAC CAGTCAGGGA TTCGCAGTCA   900

TAAGCGTCCG ATTGGTTCCT TTATGTTCCT AGGGCCTACA GGTGTCGGGG TATCCGA   957

(2) INFORMATION FOR SEQ ID NO: 372:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 807 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: double
               (D) TOPOLOGY: linear

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

CAAAGCGCCT CAGCTTCAGC ATCAACAAGT GCGTCGGCTT CAGCATCAAC CAGTGCCTCG   60

GCTTCAGCGT CAACCAGTGC GTCACATTCA GCAAGTACCA GTGCTTCAGT CTCAGCATCA   120

ACAAGTGCTT CAGCCTCAGC ATCGACAAGT GCCTCGGCTT CAGCAAGCAC ATCAGCATCT   180

GAATCAGCGT CAACCAGTGC TTCGGCTTCA GCAAGTACCA GTGCTTCAGC TTCAGCATCA   240

ACCAGCGCCT CGGCCTCAGC AAGCACCTCA GCTTCTGAAT CGGCCTCAAC CAGCGCCTCG   300

GCCTCAGCAA GCACCTCAGC TTCTGAATCG GCCTCAACCA GCGCCTCAGC CTCAGCATCA   360

ACGAGTGCTT CGGCTTCAGC AAGCACAAGC GCCTCGGGTT CAGCATCAAC GAGTACGTCA   420

GCTTCAGCGT CAACCAGTGC TTCAGCCTCA GCATCAACAA GTGCGTCAGC CTCAGCAAGT   480

ATCTCAGCGT CTGAATCGGC ATCAACGAGT GCGTCTGAGT CAGCATCAAC GAGTACGTCA   540

GCCTCAGCAA GCACCTCAGC TTCTGAATCG GCCTCAACCA GTGCGTCAGC CTCAGCATCG   600

ACAAGCGCCT CAGCTTCAGC AAGTACCAGT GCTTCAGCCT CAGCGTCGAC AAGTGCGTCG   660

GCCTCAACCA GTGCATCTGA ATCGGCATCA ACCAGTGCGT CAGCCTCAGC AAGTACTAGT   720

GCATCGGCTT CAGCATCAAC CAGTGCCTCG GCTTCAGCGT CAACCAGTGC GTCAGCTTCA   780

GCAAGTACCA TGTGCTTCAT GTCTCAG   807

(2) INFORMATION FOR SEQ ID NO: 373:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 1068 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: double
               (D) TOPOLOGY: linear

1387

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

```
CATCGGCTTC AGCATCAACG AGTGCGTCCG CTTCAGCAAG TACTACCGCC TCAGCCTCAG        60

CGTCAACAAG TGCATCGGCT TCAGCGTCAA CGAGTGCGTC TGAGTCAGCA TCAACGAGTG       120

CGTCACCTCA GCAAGCACAT CAGCTTCTGA ATCTGCATCA ACCAGTGCGT CACCTCAGCA       180

TCGACAAGCG CCTCAGCTTC AGCAAGTACC AGTGCGTCAC CTCAGCGTCG ACAAGTGCGT       240

CGGCTTCAGC AAGTACCAGT GCGTCAsCTC AGCAAGTACC AGTGCGTCAC CTCAGCGTCG       300

ACAAGTGCGT CGGCCTCAAC CAGTGCATCT GAATCGGCAT CAACCAGTGC GTCACCTCAG       360

CAAGTACTAG TGCATCAGCT TCAGCATCAA CGAGTGCATC GGCTTCAGCA TCAACCAGTG       420

CATCAGAGTC AGCAAGTACC AGTGCGTCAG cTTCCGCATC AACAAGTGCC TCGGCTTCAG       480

CAAGTACTAG CGCCTCAGCC TCAGCGTCAA CAAGTGCTTC AGCTTCCGCG TCAACCAGCG       540

CCTCGGCCTC AGCAAGTATC TCAGCGTCTG AATCGGCATC AACAAGTGCC TCGGCTTCAG       600

CATCAACGAG TGCATCAGTC TCAGCAAGCA CCAGTGCGTC GGCCTCAGCA AGCACCAGCG       660

CGTCTGAATC CGCATCAACC AGTGCCTCAG CTTCAGCAAG TACCTCAGCA TCTGAATCAG       720

CATCAACAAG TGCATCGGCT TCAGCAAGCA CAAGTGCTTC AGCCTCAGCA AGTATCTCAG       780

CGTCTGAATC GGCATCAACG AGTGCGTCCG CTTCAGCAAG TACTAGCGCC TCAGCATCAG       840

CGTCAACAAG TGCTTCGGCT TCAGCGTCAA CGAGTGCGTC TGAGTCAGCA TCAACGAGTA       900

CGTCAGCCTC AGCAAGCACA TCAGCTTCTG AATCTGCATC AACCAGTGCG TCAGCCTCAG       960

CATCGACAAG CGCCTCAGCT TCAGCAAGTA CCAGTGCGTC AGCCTCAGCA AGTACCAGTG      1020

CTTCAGCCTC AGCGTCGACA AGTGCGTCGG GCTCAACCAG TGCATCTG                   1068
```

(2) INFORMATION FOR SEQ ID NO: 374:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 620 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

```
CAGCATCAAC GAGTGCTTCA GTTTCAGCGT CAACCAGTGC CTCTGAATCA GCTTCAACAA        60

GTGCCTCGGC TTCAGCAAGC CCCAGTGCGT CGGCTTCAGC AAGTACTAGT GCATCGGCTT       120

CAGCATCGAC AAGTGCGTCT GAATCGGCAT CAACGAGTGC TTCGGCTTCA GCATCAACGA       180

GTGCGTCAGC CTCAGCAAGC ACATCAGCTT CTGAATCTGC ATcAACCAGT GCGTCCGyTT       240
```

1388

```
CAGCGTCAAC CAGTGCGTCG GCTTCAGCGT CGACAAGTGC TTCGGCTTCA GCATCAACGA        300

GTGCGTCGGC CTCAGCAAGC GCAAGTACCT CAGCGTCAGC TTCCGCCTCA ACCAGTGCGT        360

CGGCTTCAGC AAGCACAAGT GCGTCAGCCT CAGCAAGTAT CTCAGCGTCT GAATCGGCAT        420

CAACGAGTGC GTCTGAGTCA GCATCAACGA GTACGTCAGC CTCAGCAAGC ACATCAGCTT        480

CTGAATCTGC ATCAACCAGT GCGTCAGCCT CAGCATCGAC AAGCGCCTCA GCTTCAGCAA        540

GTACCAGTGC TTCAGCCTCA GCGTCGACAA GTGCGTCGGC CTCAACCAGT GCATCTGAAT        600

CGGCATCAAC CAGTGCGTCA                                                    620
```

(2) INFORMATION FOR SEQ ID NO: 375:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 720 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

```
GTATTGGGGC GCCCCAACCT CTATGTGACT ACGGATTATT TCCTAGATTA CATGgGGATA         60

AACCATTTAG AAGAATTACC AGTGATTGAT GAGCTTGAGA TTCAAGCCCA AGAAAGCCAA        120

TTATTTGGTG AAAGGATAGA AGAAGATGAG AATCAATAAG TATATTGCCC ACGCAGGTGT        180

GGCCAGTAGG AGAAAAGCAG AAGAGCTGAT TAAGCAAGGC TTGGTGACGG TTAACGGCCA        240

AGTGGTGCGT GAACTAGCAA CCACTATCAA GTCAGGCGAC AAGGTCGAAG TTGAAGGTCA        300

ACCTATCTAC AACGAAGAAA AGGTCTACTA TCTGCTTAAC AAACCACGCG GTGTGATTTC        360

CAGTGTGACA GATGATAAGG GTCGCAAGAC GGTTGTCGAC CTCTTGCCCA ATGTCAAAGA        420

GCGTATTTAC CCTGTGGGTC GTTTGGACTG GGATACATCA GGTGTCTTGA TTTTTGACCAA       480

TGATGGGGAC TTTACAGACG AGATGATTCA CCCTCGTAAT GAGATTGACA AGGTTTATGT        540

CGCGCGTGTT AAAGGTGTGG CCAATAAGGA CAATCTCCGC CCCTTGACCC GTGGTCTTGA        600

GATTGATGGT AAGAAAACCA AGCCATAATA TATAGGTTTT GTAGCCTCTA CACCATAAAT        660

ATTTGCTAAT AAAAATACTG TATTATTACC CTCTTAAGGT GCGAAATTAT TCAAGTTCTT        720
```

(2) INFORMATION FOR SEQ ID NO: 376:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 648 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

1389

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

```
CGCCATTTCC CATCGTACCG CCGAAAATCC CAGCGCCTCA GCCATCAAAT ATCCTATCAA        60

CGTTCTCAAA AAAAGTGACC GCTCTCTCAT CATGTTTCCA AGTGGTAGCC GCCACTCAAA       120

CGATGTCAAG GGGGGCGCAC ACTskATTGC CAAAATGGCC AAGGTCCGTA TCATGCCGGT       180

TACCTACACC GGTCCCATGA CTTTGAAGGG CTTGATTAGC CGTGAACGTG TCGATATGAA       240

CTTTGGAAAT CCAATCGATA TCTCAGATAT CAAGAAAATG AATGATGAAG GCATTGAAAC       300

AGTCGCCAAT CGTATTCAAA CAGAATTCCA ACGTCTGGAC GAAGAAACGA AACAATGGCA       360

CAATGATAAA AAACCAAATC CACTCTGGTG GTTTATCCGC ATCCCTGCCC TCATCCTTGC       420

TATTATCCTC GCTATCCTAA CCATCATCTT TAGCTTTATC GCAAGCTTCA TCTGGAACCC       480

AGATAAGAAA AGAGAAGAAC TTGCATAGAA GAAATGAACC TTGGCCAAAC AGCTAAGGTT       540

TTCATTTATA TAGTAGATTG GwACTAGAAT AGTACACCTC TACTTCTAAA ACATTTTTAG       600

AAATCGATTT GACTGTCCTG ATCGATTTGT CCTAATCTTA TTTCAATT                   648
```

(2) INFORMATION FOR SEQ ID NO: 377:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 690 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

```
GTGCATCGCT TTCAGCATCG ACAAGTGCGT CTGAATCGGC ATCAACGAGT GCTTCGGCTT        60

CAGCATCAAC GAGTGCGTCA GCTTCAGCAA GCACATCAGC TTCTGAATCT GCATCAACCA       120

GTGCGTCCGC TTCAGCGTCA ACCAGTGCGT CGGCTTCAGC GTCGACAAGT GCTTCGGCTT       180

CAGCATCAAC GAGTGCGTCG GCCTCAGCAA GCGCAAGTAC CTCAGCGTCA GCTTCCGCCT       240

CAACCAGTGC GTCCGCTTCA GCAAGCACAA GTGCGTCAGC CTCAGCAAGT ATCTCAGCGT       300

CTGAATCGGC ATCAACGAGT GCGTCGGCCT CAGCAAGCGC AAGTACCTCA GCGTCAGCTT       360

CCGCCTCAAC CAGTGCGTCG GCTTCAGCAA GCACAAGTGC GTCAGCCTCA GCAAGTATCT       420

CAGCGTCTGA ATCGGCATCA ACGAGTGCGT CTGAGTCAGC ATCAACGAGT ACGTCAGCCT       480

CAGCAAGCAC ATCAGCTTCT GAATCGGCAT CAACCAGTGC GTCAGCCTCA GCATCGACAA       540

GCGCCTCAGC TTCAGCAAGT ACCAGTGCTT CAGCCTCAGC GTCGACAAGT GCGTCGGCCT       600

CAACCAGTGC ATCTGAATCG GCATCAACCA GTGCGTCAGC CTCAGCAAGT ACTAGTGCAT       660
```

1390

CAGCTTCAGC ATCAACGAGT GCATCGGCTT   690

(2) INFORMATION FOR SEQ ID NO: 378:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1003 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

CGAGATTCTC TGGAGTTATG GATGTCGTTC CAATATGTGC ACGTTGGAAT GTTAGTGCTT   60

ATATGGGGGG AACAGAATCC TCTCTTGATT GAAGACAAGC TAGTCATTAG GCTGGTTTGT   120

CTTTTTGTCA ACTGTAGTGG GTTGATATAA TAGTATTAGT GAGTGGGATA AAAGTTTCAT   180

TTAGTTTATT CAGTACAAAT TTAACGGGTC AAGATTTATA TACTAGTGGT GTTTTTGGGG   240

CTGAGAGAAG TATCTTGATT TTATGTGTGG TTTTTATACT TACAGTTGTT CTGCTCCAAA   300

GAGCTTGTAG AGAAGAATTA GCTCATAAAG GAGATTGATT ATTTTGATAT CAAAAAAATG   360

CACAGGATAA CCTGATGCAT TTTTTTAGCG ACAATGCTTG CTACTTCCTT CTGTCGAATT   420

TAGACAATTT TAAACCCCAA TTATTCACCC CAAATCTAAA AACCATCCAG AATCCTTGCC   480

TTAGCTTAGA TCCTGGATGG TTTCTTTTTT CACCCAATGG GTGTTTTTTA CTAGACAAAA   540

AAGAGTTTCC CCTTTATGGT ATAAGTGTAG AAAAAAACAC AAAAAGAAAG GAAACTCACA   600

TGAACAGTTT ACCAAATCAT CACTTCCAAA ACAAGTCTTT TTACCAACTA TCTTTCGATG   660

GAGGTCATTT AACCCAGTAT GGTGGTCTTA TCTTTTTTCA GGAACTTTTT TCCCAGTTGA   720

AACTAAAAGA GCGGATTTCT AAGTATTTAG TAACGAATGA CCAACGCCGC TACTGTCGTT   780

ATTCGGATTC AGATATCCTT GTCCAGTTCC TCTTTCAACT GTTAACAGGT TATGGAACGG   840

ACTATGCTTG TAAAGAATTG TCAGCTGATG CCTACTTTCC AAAATTATTG GAAGGAGGGC   900

AGCTTGCTTC ACAGCCAACC TTATCCCGTT TTCTTTCCAG AACTGACGAG GAAACAGTCC   960

ATAGTTTGCG ATGCCTCAAC CTTGAATTGG TCGAATTCTT TTT   1003

(2) INFORMATION FOR SEQ ID NO: 379:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 738 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:

1391

```
CCGATGATTC TGATTGGTTT GCTCTTTACT TTGCTGGGAA TTTTGAGGTA GATCTATGAT        60

TGAAATACTA ATTGTTTTAG CTATTATCCT ATCTCTTGCT TTGATTGTAT TGGTAACTAT       120

ACAACCCCGT CAAAATCAAC TATTTTCCAT GGATGCCACT AGTAATATTG GTAAACCAAG       180

CTACTGGCAG AGCAACACCT TGGTCAAGGT GCTCACTTTA TTGGTGAGTT TGGCTTTATT       240

TATTCTACTA TTAACCTTTA TGGTGATTAC TTATAAATAA AAGAAAACTT CAGATATTCA       300

CCTTTTGTGG ATTGGTCTGA AGTTTTCTTT TTTATACTCA ATGAAAATCA AAGAGCAAAC       360

TAGGAAGCTA GCCGCAckGC TCAAAACACC GTTTTGAGGT TGTAGATATA ACTGACGAGc       420

GACTCAAAAC ACCGTTTTGA GGTTGTAGAT ATAACTGACG AGcGACTCAA AACACCGTTT       480

TGAGGTTGTG GATAGAACTG ACGAGcGACT CAAAACACCG TTTTGAGGTT GTGGATAGAA       540

CTGACGAAGT CGcTCAAAAC ACCGTTTTGA GGTTGTGGAT AGAACTGACG AAtgctCAAA       600

ACACCGTTTT GAGGTTGTGG ATAGAACTGA CGAAGCgaaC ATATATACAG CAAGGCGACG       660

CTGACGTGGT TTGAAGAGTA TTACTGTCTA TATTTTTGGT AAAAATCAAC TTTTACTTGG       720

ATGAAGGTTT TTTTTTTT                                                     738
```

(2) INFORMATION FOR SEQ ID NO: 380:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 695 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

```
CCGTCTTATC AAAGAGGTTA ACAAAGGCAC CAAATTTCTC GATACGAACG ACTTTAGCAC        60

GGTAAACTTC ATCCACTTTG GCTTCACGAA CCAAACCAGC AATAATTTCT TTGGCACGGT       120

TAATAGCATC TTGGTCACTA GAGTAGATAG ACACATTTCC TTCTTCGTCT ATATCAATCT       180

TAACACCTGT TTCAGCGATA ATCTTGTCGA TGGTTTCTCC ACCCTTACCG ATGACAATCT       240

TAATCTTGTC CACATCAATC TTGATCGTAT CAATTTTCGG AGCAGTTGGA GCCAATTCTG       300

GACGAACTTC TGGAATGGTT GCTTCAATGA CATCAAGGAT TTCAAAACGC GCTTTCTTGG       360

CTTGAGCAAG AGCCTCCGTC AAGATTTCTG CAGTAATCCC TTGAATCTTG ATATCCATTT       420

GAAGGGCTGT AATCCCATCA CGAGTACCTG CAACCTTGAA GTCCATATCT CCAAAGTGAT       480

CTTCCAAACC TTGGATATCT GTCAATACTG TGTAGTTATT TCCATCTGAG ATAAGCCCCA       540

TAGCAATACC AGCTACTGGC GCCTTGATTG GCACACCACC AGCCATAAGG GCAAGAGTTC       600
```

1392
```
CCGCACAGAT AGAAGCTTGA GATGAAGAAC CGTTTGATTC CAAAACTTCT GCTACTAGAC        660

GGATAGCGTA GGGGAATTCT TCCAAGCTTG GCAGG                                   695
```

(2) INFORMATION FOR SEQ ID NO: 381:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 691 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

```
GACATCTTAT CTAAATACAT GCTAATATAT TTAGATACAA ACATTCCAAC TTGATAATTT         60

TCACTCATCT TTCATCATTC CTTATACAAC TATGCAGTAT AAATAGAATA GTTTTCTCAT        120

CAGAATGAGA CTATTTTAAT ATTAGATCCC CAATTATTCA CCCCAAATCT AAAAACCATC        180

CAGAATCCTT GCCTTAGCTT AGATCCTGGA TGGTTTCTTT TTTCACCCAA TGGGTGTTTT        240

TTACTAGACA AAAAAGAGTT TCCCCTTTAT GGTATAAGTG TAGAAAAAAA CACAAAAAGA        300

AAGGAAACTC ACATGAACAG TTTACCAAAT CATCACTTCC AAAACAAGTC TTTTTACCAA        360

CTATCTTTCG ATGGAGGTCA TTTAACCCAG TATGGTGGTC TTATCTTTTT TCAGGAACTT        420

TTTTCCCAGT TGAAACTAAA AGAGCGGATT TCTAAGTATT TAGTAACGAA TGACCAACGC        480

CGCTACTGTC GTTATTCGGA TTCAGATATC CTTGTCCAGT TCCTCTTTCA ACTGTTAACA        540

GGTTATGGAA CGGACTATGC TTGTAAAGAA TTGTCAGCTG ATGCCTACTT TCCAAAATTG        600

TTGGAAGGAG GGCAGCTTGc TTCACAGCCA ACCTTATCCC GwTTTCTTTC CAGAACTGAC        660

GAGGAAACAG TCCATAGTTT GCGATGCCTC A                                       691
```

(2) INFORMATION FOR SEQ ID NO: 382:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 750 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

```
ATCTCTCTGC GTAATGGTCC TCAGATAACT CTGATGATGT GTGGCGATAT AGAACTGAGC         60

CAAGTTATGC CTAAAGGGCC TTAGGAATAG GAGCTTTCAC AAGCTTATCC AGATGATTAT        120

CTTTTACTCG TTATGGACAA TGCTATATGG CATAAATCAA GTACCTTAAA GATTCCGACT        180

AATATTGGCT TTGCATTTAT TCCTCCATAC ACACCAGAGA TGAACCCCAT TGAACAAGTG        240
```

1393

```
TGGAAAGAGA TTCGTAAACG TGGATTTAAG AATAAAGCCT TTCGAACTTT GGAAGATGTC    300

ATACAAGGAC TGGAGAAGGA GGTGATAAAG TCCATCGTTA ATCGGAGACG GACTAGAATG    360

CTTTTTGAAA ACAGATGAGT ATAAAAAGAA AGTCCTCATT TCAATAGAAA TCACGACTTT    420

CTGATGAATT TATAGTAAAA TGAAATAAGA ACAGGATAGT CAAATCGATT TCTAACAATG    480

TTTTAGAAGC AGAGGTGTAC TATTCTAGTT TAAATCCACT ATATTTGGGG AGTGATAGAA    540

AAGCCCTTCA TCAGCCAATC TACTTGTTCA GGTGCGAGAG CTTTGACATC CTTTTCTGTA    600

CTGGACCAAG TCAGTTTTCC GTTCTCAAAG CGTTTATATA ATATCCAAAA TCCTTGACCA    660

TCCCAGTAAA GAACTTTAAA GCGGTCTTTA CGTCCACCAC AAAAGAGAAA GACTTGATCG    720

GAGAAAGGAT CCAATTCAAA GTGGGTTTGG                                     750
```

        (2) INFORMATION FOR SEQ ID NO: 383:

            (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 738 base pairs
                (B) TYPE: nucleic acid
                (C) STRANDEDNESS: double
                (D) TOPOLOGY: linear

            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

```
TCAAATTCTT CGTGGTCCGC ATATCTnTCT TCGTACACGG CAGTCACTTG GTCTTTCACT     60

ACTCGAGTCG CAGCTTCACG GGCCAATTTC TCTTCTACTT GAACTGCCTT TTGGAGGTCA    120

CTGTTGTAGG CTGCAATGAT TTCAGCTTGC AATTCAGCAT CCACGTGAAG CAATTCCACT    180

TCTGCTTTTT CTTTACCGAC AGCAGCAACG ATTTCTTCTT GGAAGGCAAT CAATTCTTTG    240

ACAGCTTCGT GCCCTTTAAG GAGCGCTTCC AACATGATTT CTTCTGACAA TTCTTTGGCA    300

CCAGACTCTA CCATGTTGAT AGCGTGCTTG GTTCCAGCTA CTGTCAATTC AAGAAGAGAT    360

TGCTCTGCTT GTTCTTGACT TGGGTTGATG ATGATTTGGC CATCTACATA TCCCACTTGT    420

ACCCCAGCAA TTGGTCCGTC AAATGGAATA TCTGAAATAG ACAGTGCCAA AGATGAACCA    480

AACATAGCAG CCATTGGTGC AGATGCATTT TCATCATAAG AAAGCACTGT ATTGATGACT    540

TGGACTTCAT TACGGAAACC TTCCGCAAAC ATAGGACGAA TCGGACGGTC AATCAAACGC    600

GCTGTCAAGG TCGCATCTGT TGAAGGACGT CCTTCACGTT TCATAAAGCC ACCAGGAAAC    660

TTCCCAGCCG CATACATTTT TTCTTCGTAG TTGACTTGGA GTGGGAAGAA ATCCTCAGTT    720

GCCATTTTCT GGGGATCC                                                  738
```

        (2) INFORMATION FOR SEQ ID NO: 384:

1394

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 657 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

```
CCCCCTATTT ACCGTGGACT AAAGTTGTAC AAGAAAAGTG CAAATAAGAA ATCTCCAGAT      60

TAGGAACTAT ATATGAGTTC TCTAGTCTGG AGATTTTTCA ATAGACTTCG TTATTGGGCG     120

GTTACTTTCG AAACTTTGAA AACTTCAAAA AACGGATTTT TATCGCTTTC AAATTCTTTT     180

GGGGTCAAAC TCAGTAACTT ATTCGCCTTG TAGACTTCAT GACGCTCAGG GTATACTTTC     240

AAGGTCCCAA ATAGCCAAGA ATCGTCAGCG ATATTATCTG AATCATCTCC TTCTTGTTCT     300

CCTTTAGTTC GCCTGAGGAC AGCCTTGACA CGCGCCAGAA TTCTCTAGGG CTAAAAGGCT     360

TGGTCAGGTA GTCATCAGCC CCTAATTCCA AGGCCAAAAC CTTATCAAAT TCATCACTTT     420

TCGCAGAAAC CATCATAATT GGAGTTTTGA CGCCTTTGGC TCTCAGCCGC TTACAAACTT     480

CCATGCCATC TAATTGTGGT AACATGATAT CAAGCAAGAT AAAATCAAAG GGTTCTGTTT     540

CTGCCAAAGC TAAGGCCTTC CGTCCATTTG TCACCAATTG AGTAGAAAAG CCTTCCTTAC     600

TTAAATGGTA GTCAAGCAAT TTCAGAATGT GTTCTTCATC ATCCACTAAT AAGACTT       657
```

(2) INFORMATION FOR SEQ ID NO: 385:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 586 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

```
CCGCATCAGC ATCAACGAGT GCATCGGCTT CACGTCAACC AGTGCATCAG TCTCAGCAAG      60

CACCAGTGCG TCGGCTTCAG CATCAACGAG TGCCTCAGCC TCAGCAAGTA TCTCAGCGTC     120

TGAATCGGCA TCAACGAGTG CGTCAGCTCA GCAAGTACTA GTGCATCGGC TTCAGCAAGC     180

ACCAGTGCGT CGGCTTCAGC ATCAACCAGT GCCTCAGCCT CAGCAAGTAT CTCAGCGTCT     240

GAATCGGCAT CAACGAGTGC GTCACCTCAG CAAGTACTAG TGCATCAGCA TCAGCATCAA     300

CGAGTGCATC GGCTTCAGCA AGTACCAGCG CCTCAGCTTC AGCAAGCACC AGTGCGTCAC     360

CTCAGCAAGT ACCAGCGCCT CAGCCTCAGC AAGCACCAGT GCCTCAGCTT CAGCAAGTAC     420

CAGTGCGTCA CCTCAGCATC GACAAGTGCG TCGGCTTCAG CAAGTACCTC AGCGTCTGAA     480
```

1395

TCAGCATCAA CGAGTGCGTC AGCTTCAGCA TCAACCAGTG CCTCAGCCTC AGCAAGTATC   540

AGTGCGTCAG CTTCAGCATC AACGAGTGCG TCAGCTGCAG CAAGTA   586

(2) INFORMATION FOR SEQ ID NO: 386:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 451 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

CGTCGGCTTC AGCATCAACG AGTGCATCAG CTTCAGCATC AACAAGTGCT TCAGCTTCAG   60

CAAGTACCAG TGCGTCGGCT TCAGCATCAA CGAGTGCTTC AGTCTCAGCG TCAACCAGTG   120

CCTCTGAATC CGCATCAACA AGTGCCTCGG CTTCAGCAAG CACCAGTGCT TCGGCTTCAG   180

CGTCAACGAG TGCGTCTGAG TCAGCATCAA CGAGTGCGTC ACCTCAGCAA GCACATCAGC   240

TTCTGAATCT GCATCAACCA GTGCGTCAGC TTCCGCATCA ACAAGCGCCT CGGCCTCAGC   300

AAGTACAAGT GCTTCAGCCT CAGCATCAAC CAGTGCATCA GCTTCAGCCT CAACAAGTGC   360

TTCAGCCTCA GCGTCAACCA GTGCCTCGGC TTCAGCAAGT ACCAGTGCGT CAGTTcAGCA   420

AGCACAAGTG CGTCAATTTA GCATCAACCA G   451

(2) INFORMATION FOR SEQ ID NO: 387:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 425 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

TCTCAGCAAG CACCATTGCG TCGGCTTCAT CAAGCACCAG CGCGTTTGAA TCCGCATCAA   60

CCAGTGCTTC AGCTTCAGCC AAGTTACCTC AGCATCTGAA TCAGCATCAA CAAGTGCATC   120

GGCTTCAGCA AGCACAAGTG CTTCAGCtCA GCAAGTATCT CAGCGTCTGA ATCGGCATCA   180

ACGAGTGCGT CCGCTTCAGC AAGTACTAGC GCCTCAGCAT CAGCGTCAAC AAGTGCTTCG   240

GCTTCAGCGT CAACGAGTGC GTCTGAGTCA GCATCAACGA GTACGTCAGC CTCAGCAAGC   300

ACATCAGCTT CTGAATCTGC ATCAACCAGT GCGTCAGCCT CAGCATCGAC AAGCGCCTCA   360

GCTTCAGCAA GTACCAGTGC GTCAGCCTCA GCAAGTACCA GTGCTTCAGC CTCAGCGTCG   420

ACAAG   425

(2) INFORMATION FOR SEQ ID NO: 388:

     (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 572 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

AGAGGATCCC CGGATCCTCA GTCGCTGAGA TAACTCCTTT GGGCTTGTTC ATCATGTAGT   60

AGACAAACTC TTCATACTCC AACACTTGCC CATTTTATGC GAATCTCATC TATTTTTTCT   120

TTTTTTTGCA ATTTAGCTGA TTTTTCTTTT TTACCATTTA CAGTCACGCG CCCAGCCTTG   180

AGCAAGTTTT TGACCTCAGT CCGACTTCCC ACCGCACAGG CAACTAAAAA TTTATCTAAT   240

CTCATAGAAC TATTATATCA TATCAAAAGG AGGCTAGTAC AATGACCAAC CTCCTTTTCG   300

TTTCATACTC TTCAAAAATC TCTTCAAACC GCGTCAACGT CGCCTTGCCG TATATATGTT   360

ACTGACTTCG TCAGTTCTAT CTGCAACCTC AAAACAGTGT TTTGAGCTGA CTTCGTCAGT   420

TCTATCTGCA ACCTCAAAGC AGTGCTTTGA GCATCCTGCG GCTAGTTTCC kAGTkTGCTC   480

TTTGATTTwC ATTGAGTATC AGATTTAGGA AATTAACTTC CTCGkCTCCA AAAAAkAGCT   540

AAAACAATCA AGGCTCCTAA AATCGCTGGG AT   572

(2) INFORMATION FOR SEQ ID NO: 389:

     (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 505 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

CAACAAGTGC CTCGGCTTCA GCATGCACAA GTGCTTCAGC TTCAGCATGT ACCTGAGCGT   60

CTGAATCAGC ATCAACGTGT GCGTCCGCTT CAGCATGTAC TGCTGCCTCA GCATCAGCGT   120

CAAcAwGTGC TTCGGCTTCA GCGTCAACGA GTGCGTCTGA GTCAGCATCA ACGAGTACGT   180

CAGCCTCAGC AAGCACATCA GCTTCTGAAT CTGCATCAAC CAGTGCGTCA GCCTCAGCAT   240

CGACAAGCGC CTCAGCTTCA GCAAGTACCA GTGCGTCAGC CTCAGCAAGT ACCAGTGCTT   300

CAGCCTCAGC GTCGACAAGT GCGTCGGCCT CAACCAGTGC ATCTGAATCG GCATCAACCA   360

GTGCGTCAGC CTCAGCAAGT ACTAGCGCCT CAGCCTCAGC ATCAACGAGT GCGTCCGCTT   420

1397

CAGCAAGTAC TAGTGCATCA GCATCAGCAT CAACGAGTGC ATCGGCTTCA GCAAGTACCA   480

GCGCCTCAGC TTCAGCAAGC ACCGG   505

(2) INFORMATION FOR SEQ ID NO: 390:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 447 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

GCTAAGACTA CCTCATTAGG GGCATAGGCT GCTAAAATAA CTGCAGCTGT GGTTAATGAC   60

AATACTGTAC TTTTTTTCAT TTTAATTCCT TACATATTTA TATAACTTCC AAATAGATAAT   120

AAACTTTAAC TTTGCTAGCC TTTGTTATAA AAAGTTTTAC TAAGTATTAT CTAGGAAATA   180

GAGTAGTACA TTTATATATA ATTGTTATCT CTCTATAAAA ACAGTATATC ATTTAAAAAA   240

ATTTAAGTCA AAAAAATTAA CATTAGTTAA TTTATTTTTT AGCACACATT AAAAAATAAG   300

ATTAGTACTC AATGAAAATC AAAGAGCAAA CTAGGAAACT AGCCGCAGAT TGCTCAAAAC   360

AGTGTTTTGA GGTTGTAGAT GGAATGACGT AGTCAGCTCA AAACACTGTT TTGAAGTTGT   420

GGATAGAACT GACGAAGTCG GTACCGA   447

(2) INFORMATION FOR SEQ ID NO: 391:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 572 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

AGCACTTGTC GTTGAATTCT ACAACAAAAT GTTGTAATAT TTTATTGAAT AAGATAGGCC   60

TTGATATTAA GCACTTTGGG ACGTTCTCCC TTAGTGCTTT TTTGATTTCT CTTAGTATCC   120

AGCTATAATC GTTGAGACAT AACTAGACCG ATATAGTCCA AAGTGATATA GTAAAATGAA   180

CCAAAAATAG TACACAATGT GGTATAATCC TTTTATGGCA TATTCAATAG ATTTTCGTAA   240

AAAAGTTCTC TCTTATTGTG AGCGAACAGG TAGTATAACA GAAGCATCAC ACGTTTTCCA   300

AATCTCACGT AATACCATTT ATGGCTGGTT AAAGCTAAAA GAGAAAACAG GAGAGCTAAA   360

CCACCAAGTA TAGTGTATTG AATCTATAAC AGTACACCTT GGCTGCTAAA ATATTTCTAT   420

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                               1398
AAATTAATTT GACTTTCCTG ATAGAGATGT TCACATCTTA TTTCAAACTA CTATATAAGT     480

TCTATAATCT CTTTATAAGA TTTGCCCATC AGACAAAATA GAACGATTTG AAGGCGTTTA     540

TGATATTTAG CTGTACGAGA GTCTTTTAAA AG                                   572
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1399

MISSING UPON TIME OF PUBLICATION

1400

DENMARK

The applicant hereby requests that, until the application has been laid open to public inspection (by the Danish Patent Office), or has been finally decided upon by the Danish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Danish Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Danish Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Danish Patent Office or any person approved by the applicant in the individual case.

SWEDEN

The applicant hereby requests that, until the application has been laid open to public inspection (by the Swedish Patent Office), or has been finally decided upon by the Swedish Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the International Bureau before the expiration of 16 months from the priority date (preferably on the Form PUT/RO/134 reproduced in annex Z of Volume I of the PCT Applicant's Guide). If such a request has been filed by the applicant, any request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Swedish Patent Office or any person approved by the applicant in the individual case.

UNITED KINGDOM

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for the International publication of the application.

NETHERLANDS

The applicant hereby requests that until the date of a grant of a Netherlands patent or until the date on which the application is refused or withdrawn or lapse, the microorganism shall be made available as provided in Rule 31F(1) of the Patent Rules only by the issue of a sample to an expert. The request to this effect must be furnished by the applicant with the Netherlands Industrial Property Office before the date on which the application is made available to the public under Section 22C or Section 25 of the Patents Act of the Kingdom of the Netherlands, whichever two dates occurs earlier.

SINGAPORE

The applicant hereby requests that the furnishing of a sample of a microorganism shall only be made available to an expert. The request to this effect must be filed by the applicant with the International Bureau before the completion of the technical preparations for international publication of the application.

NORWAY

The applicant hereby requests that, until the application has been laid open to public inspection (by the Norwegian Patent Office), or has been finally decided upon by the Norwegian Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art. The request to this effect shall be filed by the applicant with the Norwegian Patent Office not later than at the time when the application is made available to the public under Sections 22 and 33(3) of the Norwegians Patents Act. If such a request has been filed by the applicant, any request made by a third party for the furnishing of a sample shall indicate the expert to be used. That expert may be any person entered on a list of recognized experts drawn up by the Norwegian Patent Office or any person approved by the applicant in the individual case.

AUSTRALIA

The applicant hereby gives notice that the furnishing of a sample of a microorganism shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention (Regulation 3.25(3) of the Australian Patents Regulations).

FINLAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the National Board of Patents and Registration), or has been finally decided upon by the National Board of Patents and Registration without having been laid open to public inspection, the furnishing of a sample shall only be effected to an expert in the art.

ICELAND

The applicant hereby requests that, until the application has been laid open to public inspection (by the Icelandic Patent Office), or has been finally decided upon by the Icelandic Patent Office without having been laid open to public inspection, the furnishing of a sample shall only be effected in the art.

1402

What Is Claimed Is:

1.   Computer readable medium having recorded thereon the nucleotide sequence depicted in SEQ ID NOS:1-391, a representative fragment thereof or a nucleotide sequence at least 95% identical to a nucleotide sequence depicted in SEQ ID NOS:1-391.

2.   Computer readable medium having recorded thereon any one of the fragments of SEQ ID NOS:1-391 depicted in Tables 2 and 3 or a degenerate variant thereof.

3.   The computer readable medium of claim 1, wherein said medium is selected from the group consisting of a floppy disc, a hard disc, random access memory (RAM), read only memory (ROM), and CD-ROM.

4.   The computer readable medium of claim 3, wherein said medium is selected from the group consisting of a floppy disc, a hard disc, random access memory (RAM), read only memory (ROM), and CD-ROM.

5. A computer-based system for identifying fragments of the *Streptococcus pneumoniae* genome of commercial importance comprising the following elements:

a)   a data storage means comprising the nucleotide sequence of SEQ ID NOS:1-391, a representative fragment thereof, or a nucleotide sequence at least 95% identical to a nucleotide sequence of SEQ ID NOS:1-391;

b)   search means for comparing a target sequence to the nucleotide sequence of the data storage means of step (a) to identify homologous sequence(s), and

c)   retrieval means for obtaining said homologous sequence(s) of step (b).

6. A method for identifying commercially important nucleic acid fragments of the *Streptococcus pneumoniae* genome comprising the step of comparing a database comprising the nucleotide sequences depicted in SEQ ID NOS:1-391, a representative fragment thereof, or a nucleotide sequence at least 95% identical to a nucleotide sequence of SEQ ID NOS:1-391 with a target sequence to obtain a nucleic acid molecule comprised of a complementary nucleotide sequence to said target sequence, wherein said target sequence is not randomly selected.

1403

7. A method for identifying an expression modulating fragment of *Streptococcus pneumoniae* genome comprising the step of comparing a database comprising the nucleotide sequences depicted in SEQ ID NOS:1-391, a representative fragment thereof, or a nucleotide sequence at least 95% identical to the nucleotide sequence of SEQ ID NOS:1-391 with a target sequence to obtain a nucleic acid molecule comprised of a complementary nucleotide sequence to said target sequence, wherein said target sequence comprises sequences known to regulate gene expression.

8. An isolated protein-encoding nucleic acid fragment of the *Streptococcus pneumoniae* genome, wherein said fragment consists of the nucleotide sequence of any one of the fragments of SEQ ID NOS:1-391 depicted in Tables 2 and 3, or a degenerate variant thereof.

9. A vector comprising any one of the fragments of the *Streptococcus pneumoniae* genome SEQ ID NOS:1-391 depicted in Tables 2 and 3 or a degenerate variant thereof.

10. An isolated fragment of the *Streptococcus pneumoniae* genome, wherein said fragment modulates the expression of an operably linked open reading frame, wherein said fragment consists of the nucleotide sequence from about 10 to 200 bases in length which is 5' to any one of the open reading frames depicted in Tables 2 and 3 or a degenerate variant thereof.

11. A vector comprising any one of the fragments of the *Streptococcus pneumoniae* genome of claim 8.

12. An organism which has been altered to contain any one of the fragments of the *Streptococcus pneumoniae* genome of claim 8.

13. An organism which has been altered to contain any one of the fragments of the *Streptococcus pneumoniae* genome of claim 10.

1404

14.   A method for regulating the expression of a nucleic acid molecule comprising the step of covalently attaching to said nucleic acid molecule a nucleic acid molecule consisting of the nucleotide sequence from about 10 to 100 bases 5' to any one of the fragments of the *Streptococcus pneumoniae* genome depicted in SEQ ID NOS:1-391 and Tables 2 and 3 or a degenerate variant thereof.

15.   An isolated nucleic acid molecule encoding a homolog of any of the fragments of the *Streptococcus pneumoniae* genome of SEQ ID NOS:1-391 and Tables 2 and 3, wherein said nucleic acid molecule is produced by a process comprising steps of:

a) screening a genomic DNA library using as a probe a target sequence defined by any of SEQ ID NOS:1-391 and Tables 2 and 3, including fragments thereof;

b) identifying members of said library which contain sequences that hybridize to said target sequence; and

c) isolating the nucleic acid molecules from said members identified in step (b).

16.   An isolated DNA molecule encoding a homolog of any one of the fragments of the *Streptococcus pneumoniae* genome of SEQ ID NOS:1-391 and Tables 2 and 3, wherein said nucleic acid molecule is produced a process comprising steps of:

a) isolating mRNA, DNA, or cDNA produced from an organism;

b) amplifying nucleic acid molecules whose nucleotide sequence is homologous to amplification primers derived from said fragment of said *Streptococcus pneumoniae* genome to prime said amplification;

c) isolating said amplified sequences produced in step (b).

17.   An isolated polypeptide encoded by any of the fragments of the *Streptococcus pneumoniae* genome of SEQ ID NOS:1-391 and depicted in Table 2 and 3 or by a degenerate variant of said fragments.

18.   An isolated polynucleotide molecule encoding any one of the polypeptides of claim 17.

19. An antibody which selectively binds to any one of the polypeptides of claim 17.

130

20. A method for producing a polypeptide in a host cell comprising the steps of:

a) incubating a host containing a heterologous nucleic acid molecule whose nucleotide sequence consists of any one of the fragments of the *Streptococcus*

135 *pneumoniae* genome of SEQ ID NOS:1-391 and depicted in Tables 2 and 3, under conditions where said heterologous nucleic acid molecule is expressed to produce said protein, and
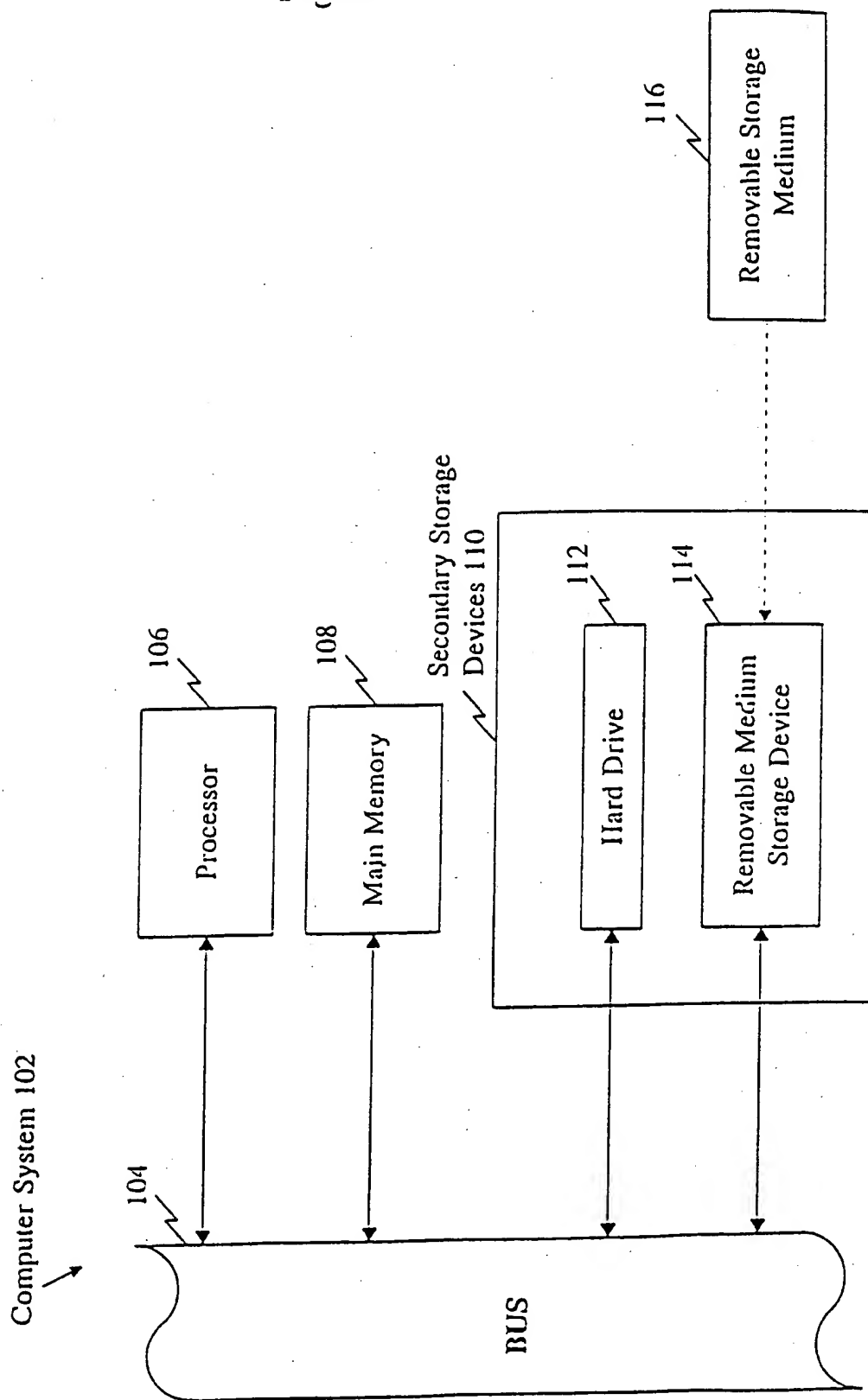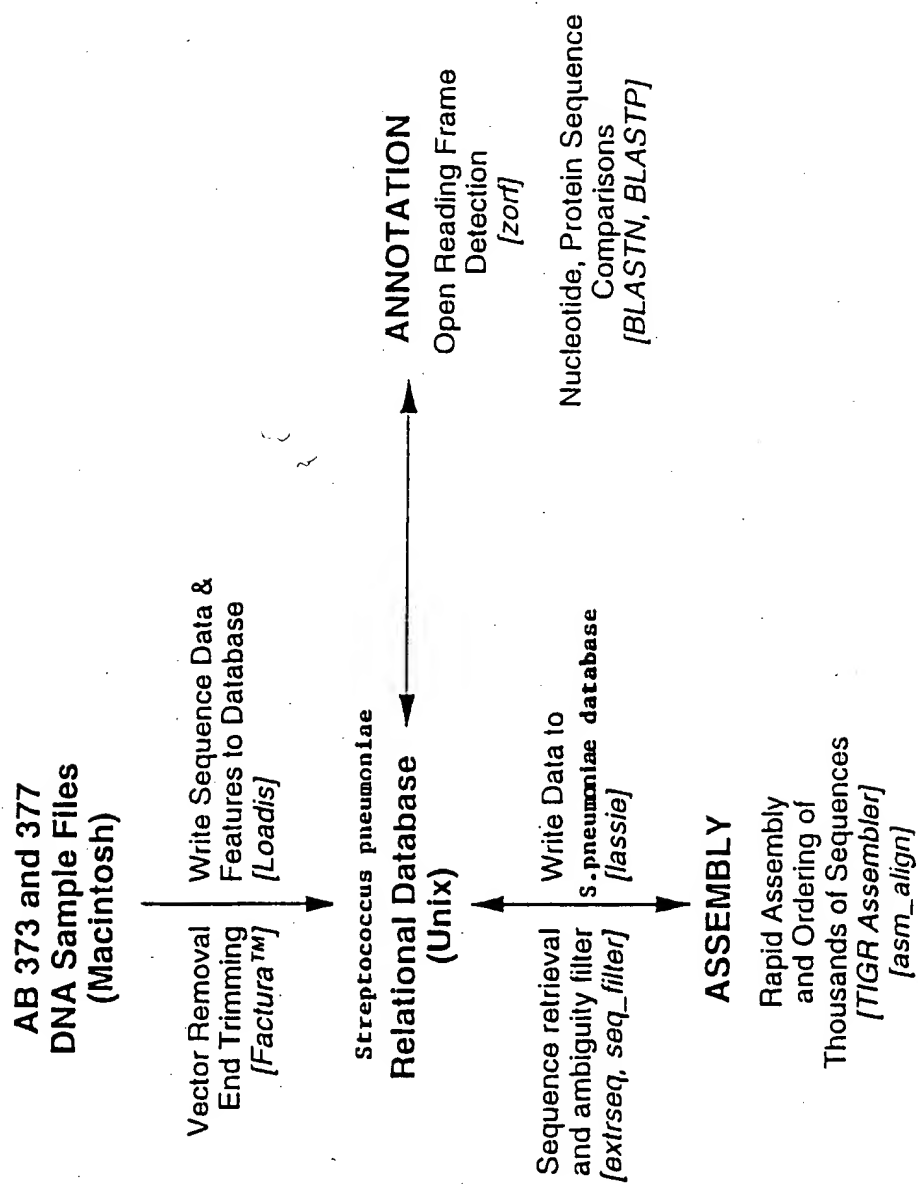
b) isolating said protein.

Figure 1

Figure 2

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